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Profiles of Foreign Direct Investment in U.S. Energy 1992

May 1994

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May 1994

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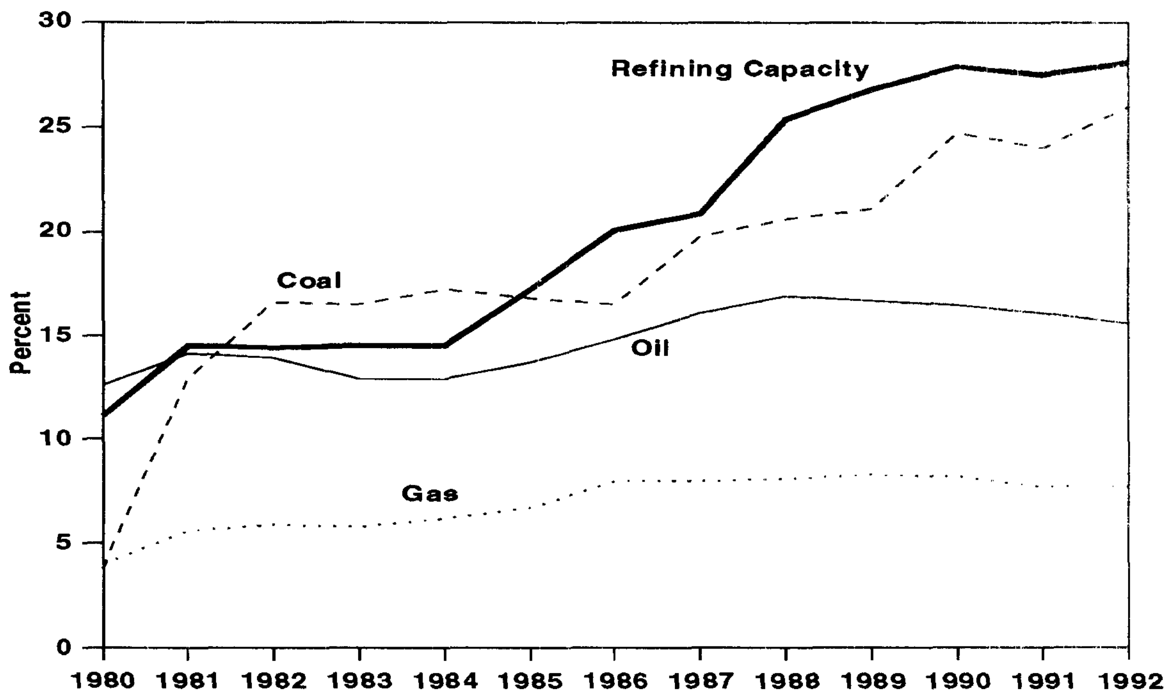
Executive Summary

Foreign companies, through their U.S.-based affiliates, play a significant role in U.S. energy production and processing.[1] For example, in 1992, foreign-affiliated companies accounted for 28 percent of U.S. refining capacity, 26 percent of U.S. coal production, 16 percent of U.S. oil production, and 8 percent of U.S. natural gas production (Figure ES1).[2] Foreign-affiliated companies also accounted for a third of all U.S. gasoline sales. During 1992, foreign-affiliated companies' shares of both U.S. coal production and U.S. downstream petroleum activities (petroleum refining, marketing, and transportation) showed modest gains from 1991, while the foreign affiliates' shares of U.S. oil and gas production remained virtually unchanged.

Figure ES1. Foreign Affiliates' Share of U.S. Production of Oil, Gas, and Coal, and U.S. Refining Capacity, 1980-1992



Sources: Tables 7, 9, and 11 of Chapter 4 of this report. U.S. Department of Energy, *Annual Report to Congress*, DOE/S-0010(84) (Washington, DC, September 1984). Energy Information Administration, *Profiles of Foreign Direct Investment in the U.S. Energy*, 1983-1991, DOE/EIA-0466 (Washington, DC, 1984-1993).

[1]The foreign direct investment position (FDI) is the cumulative net flow of funds between a foreign-affiliated company and its foreign owners. The U.S. Department of Commerce, the agency that collects data on FDI, measures FDI as the book value of foreign direct investors' equity in and net outstanding loans to their U.S. affiliates. The Department of Commerce defines a U.S. affiliate as a U.S. business enterprise in which one foreign direct investor owns 10 percent or more of the voting securities or the equivalent.

[2]Enterprises classified as petroleum operations (including natural gas) and coal mining accounted for 96 percent of all energy-related FDI in the United States, which amounted to $40.8 billion in 1992. The U.S. Department of Commerce classifies uranium mining in the "other metallic ores" industry. The value of FDI in the industry classification, "electric, gas, and sanitary services," which includes gas and electric utilities, amounted to 6 percent of FDI in U.S. energy.

Measured in terms of current dollars, over the last 2 years additions to the foreign direct investment position (FDI) in U.S. petroleum have been negative, equaling minus $1.7 billion in 1992, and minus $2.7 billion in 1991. In contrast, over the previous decade, additions to FDI were positive, ranging from a high of $8.5 billion in 1984 to $143 million in 1988. Repayment to foreign parent companies of debts incurred in earlier acquisitions plus divestitures of foreign ownership of oil and gas production enterprises outweighed new acquisitions of U.S. petroleum assets, producing this result. The reduced pace of foreign investment in the U.S. petroleum industry during 1992 was traceable to both lower levels of petroleum industry profitability and to an ongoing economic recession in Europe, the major source of foreign direct investment in United States petroleum. Additions to FDI across all U.S. industry (energy and nonenergy) also fell sharply. This was also due in part to economic recession in Europe and in Japan, the largest source of overall FDI in the United States. For all U.S. industry, additions to foreign direct investment fell from $19.4 billion in 1991 to $5.2 billion in 1992, the lowest level since 1972. In the four years prior to 1990, additions to FDI in the United States averaged over $43 billion per year.

Upstream (oil and gas exploration and production activities), low crude oil prices in recent years have tended to discourage investment in U.S. oil and gas production operations. In 1992, domestic upstream petroleum acquisitions hovered around $1 billion, roughly half the level of acquisitions during the early 1980's when oil prices were much higher. Upstream divestitures by foreign-affiliated companies in 1992 were slightly under a half-billion dollars. Over the past three years divestitures have equaled half or more of the value of acquisitions. Most of these transactions have been relatively small in dollar value. Upstream petroleum divestitures by foreign-affiliated companies appeared to be significantly motivated by efforts to consolidate oil and gas production operations in the face of a low crude oil price environment.

Downstream, the falloff in foreign affiliates' investments over the past two years was even more pronounced. This was, in part, due to the low level of U.S. refining/marketing profitability in recent years. Additionally, growing uncertainties concerning the U.S. refining industry's capability to accommodate stricter environmental regulation may have also played a role. Foreign investment in downstream petroleum was substantial during the late 1980's. Much of that investment involved the actions of national oil companies in Venezuela and Saudi Arabia to vertically integrate petroleum operations to strengthen marketing outlets for their oil producing sectors. Recent foreign investment in U.S. refining reflects, in part, a continuation of such efforts but the resulting changes in market position have been small from both a financial and operating point of view.

The largest FDI-related transaction involving foreign affiliates in 1992 involved coal assets. During 1992, Shell Oil Co. sold its coal production assets to Zeigler Coal Holding Co. in a transaction with an estimated value of $850 million. As part of this transaction, Shell gained a 25-percent interest in Zeigler, valued at $348 million. The transaction sustained an important trend evident over the last several years involving a general withdrawal of petroleum companies from U.S. coal operations. It also reflects the continued interest of non-petroleum foreign-affiliated companies in U.S. coal operations. This interest stems, in part, from the impending structural changes in subsidies affecting European coal production which are to be reduced as economic integration of the European Community proceeds. Such a reduction should lead to a substantial downsizing of the European coal industry, making room for more coal imports from the United States.

1. Introduction

Profiles of Foreign Direct Investment in U.S. Energy 1992 describes the role of foreign ownership in U.S. energy enterprises with respect to investment, energy operations, and financial performance. Additionally, since energy investments are made in a global context, outward investment in energy is reviewed through an examination of U.S.-based companies' patterns of investment in foreign petroleum. The data used in this report come from the Energy Information Administration (EIA), the U.S. Department of Commerce, company annual reports, and public disclosures of investment transactions.

According to a Congressional report on foreign investment:[1]

> "The Congress and the Public have expressed serious concerns about the impact and effects of foreign investment in the United States. They are concerned about the possibility that, if the assets or the natural resources of large U.S. firms end up under foreign control, those firms could be operated in ways ultimately harmful to U.S. national interests. These concerns arise out of the reports of foreign takeovers of high technology U.S. firms, acquisitions of U.S. farmland, investment in U.S. banks and government securities, and large foreign purchases of U.S. energy and other natural resources with the concomitant export of these scarce resources. Some of these concerns may be unfounded, but it is self-evident that both the Congress and the public must be fully apprised of the impact and effects of foreign investment to make these judgments."

The above concerns extend specifically to involvement of foreign interests in U.S. energy as evidenced by Section 657, Subpart 8, of the U.S. Department of Energy Organization Act (Public Law 95-91). This act requires that the Secretary of Energy report to the President for transmittal to Congress:

> ". . . to the extent practicable, a summary of activities in the United States by companies or persons which are foreign owned or controlled and which own or control United States energy sources and supplies, including the magnitude of annual foreign direct investment in the energy sector in the United States. . . ."

The Energy Information Administration (EIA) annually prepares a report, pursuant to this legislative requirement.[2] Versions of the report, for years prior to the 1983 reporting year, appeared as Appendix A in the U.S. Department of Energy's *Secretary's Annual Report to Congress*. Beginning with the 1983 reporting year, the annual report on foreign investment and ownership in U.S. energy has been published by the EIA. The information contained in this report is intended for use by the Congress, government agencies, energy industry analysts, international trade and finance analysts, and the general public.

The report reviews the patterns of foreign ownership interest in U.S. energy enterprises, exclusive of portfolio investment.[3] Throughout this report such foreign non-portfolio ownership interests in U.S. energy companies are referred to as "foreign direct investment," and the U.S. affiliates in which a foreign entity holds an ownership interest are referred to as "foreign-affiliated" U.S. enterprises or companies. All dollar amounts in this report are stated in terms of current dollars.

[1]U.S. House of Representatives, Committee on Government Operations, *The Adequacy of the Federal Response to Foreign Investment in the United States* (August 1980), p. 2.

[2]A report on exports of energy, required by the same legislation, is in the U.S. Department of Energy, *The Secretary's Annual Report to Congress 1991*, DOE/S-0010(92) (Washington, DC, December 1992).

[3]Foreign ownership of less than 10 percent of a U.S. enterprise is classified as portfolio investment by the U.S. Department of Commerce.

By definition, "a U.S. affiliate is a U.S. business enterprise in which a single foreign direct investor owns at least 10 percent of the voting securities, or the equivalent."[4] It should be noted that holding 10 percent or more of a company's voting stock does not necessarily constitute control of that company. The determination of control is a complex and often subjective process in which many factors other than the percentage of ownership must be considered.

This report profiles the involvement of foreign-affiliated U.S. companies in the following areas: domestic petroleum production (including natural gas), reserve holdings, refining and marketing activities, coal production, and uranium exploration and development. A financial profile of foreign-affiliated U.S. energy companies is presented, comparing data for 1991 and 1992. The report reviews recent acquisitions of ownership interests in U.S. energy companies by foreign investors. For the petroleum industry, the report identifies the international composition of ownership, as well as information on the flow of capital and income between foreign owners and the foreign-affiliated companies. This report is organized as follows:

- Recent Developments in Foreign Direct Investment in the United States
- Patterns of Overall Foreign Direct Investment in 1992
- The Operational Role of Foreign-Affiliated Companies in U.S. Energy Production

Details of FDI transactions in 1992 are listed in the appendix. Information on acquisitions of ownership in U.S. energy enterprises was obtained from public disclosures of financial transactions and filings of Form 13-D with the U.S. Securities and Exchange Commission. The information on the FDI position in the United States was derived from data published by the U.S. Department of Commerce. The data are obtained from quarterly reports required of foreign-affiliated U.S. enterprises. FDI is the cumulative net flow of funds between a foreign-affiliated company and its foreign owners. These capital flows consist of stock purchases and paid-in capital, retained earnings and other equity, and loans from and to foreign parents.[5] Foreign direct investment is a measure of the net flow of capital between the foreign entities and their U.S. affiliates. It should be emphasized that investment flows out of, as well as into, the United States. U.S. direct investment in petroleum abroad exceeds petroleum FDI in the United States, although this difference has generally narrowed in recent years.

[4]U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, June 1993), p. 53. Also, it should be noted that, consistent with its definition, foreign investment activities portrayed throughout this report do not include any foreign investment activities in connection with less than 10 percent ownership, which is known as portfolio investment.

[5]A detailed discussion of FDI data collection and methodology is contained in, "A Guide to BEA Statistics on Foreign Direct Investment in the United States," U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, February 1990).

2. Recent Developments in Foreign Direct Investment in the United States

The most direct indication of foreign investors' interest in U.S. energy is the pattern of their expenditures for acquisitions of U.S. energy assets. This chapter reviews, in a historical context, foreign investors' transactions[6] related to acquisitions and divestitures of U.S. energy assets made during 1992.

Overall additions to FDI[7] in the United States (including both energy and nonenergy industries) fell from $19.4 billion in 1991 to $5.2 billion in 1992, after averaging $43.6 billion over the prior 4-year period. In 1992, additions to FDI were at their lowest level since 1972. According to the U.S. Department of Commerce,[8] the investment slowdown was the result of lackluster economic growth in the United States which made new investments and expansions less attractive, and of economic weakness in several industrialized countries which reduced the availability of funds for investment.

A pronounced reduction in additions to FDI was most evident in U.S. petroleum operations. Additions to FDI in U.S. petroleum [9] were a negative $1.7 billion in 1992. This compares to a negative $2.7 billion in 1991, which was the lowest level since at least 1981 (Figure 1). Repayment to foreign parent companies of debts incurred in earlier acquisitions, plus divestitures of foreign ownership of oil and gas production enterprises, outweighed new acquisitions of U.S. petroleum assets to produce this result. The petroleum share of overall FDI fell to 9 percent in 1992, the lowest level since at least 1974.

1992 Acquisitions and Divestitures of U.S. Energy Assets

Lower crude oil prices and weak domestic refining margins depressed the profitability of U.S. petroleum companies, while discouraging foreign investment in U.S. petroleum operations. The value of foreign affiliates' acquisitions of U.S. petroleum assets totaled $1.1 billion in 1992, unchanged from 1991, but down from $1.9 billion in 1990 (Table 1). In historical context, both the value of FDI-related transactions in U.S. energy and additions to FDI position remained near their lowest levels experienced during the last decade (Figure 1).[10] As in recent prior years, foreign affiliates' divestitures of U.S. upstream assets, at $461 million in 1992, was roughly half the size of U.S. upstream acquisitions. FDI-related upstream petroleum divestitures appeared to be significantly motivated by efforts to consolidate oil and gas production operations in the face of a low-crude-oil price environment.

[6]Foreign ownership shares in excess of 5 percent are reported in company filings of Securities and Exchange Commission Form 13-D.

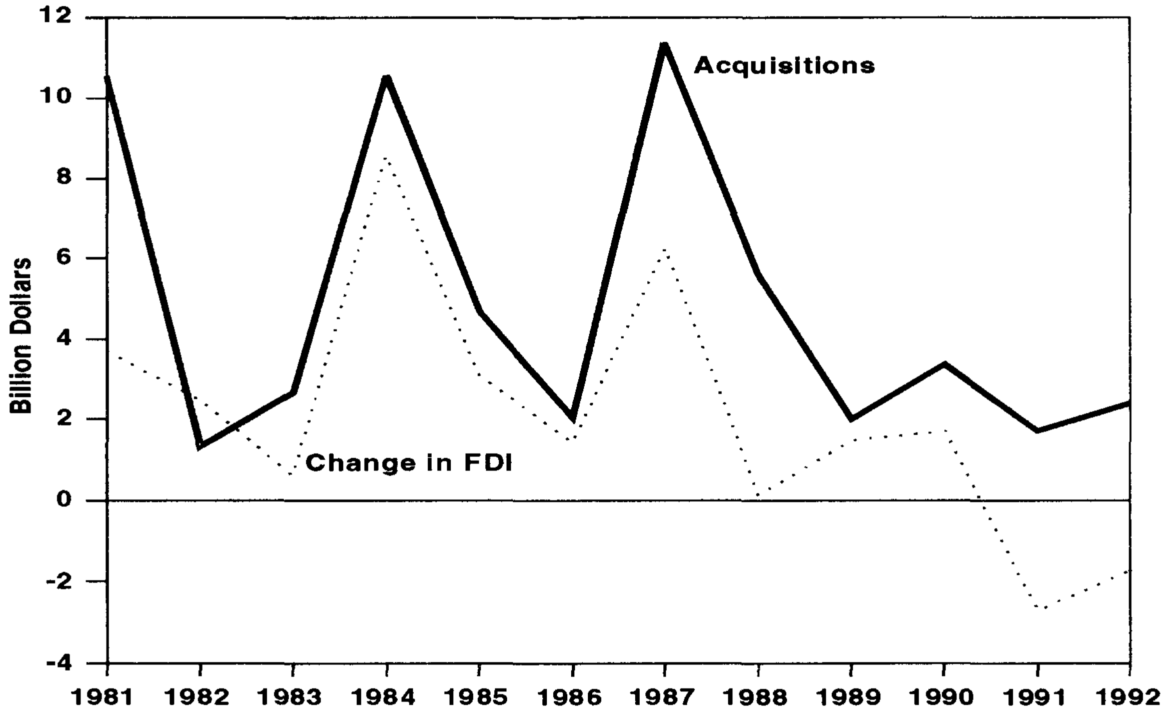
[7]The foreign direct investment position (FDI) is the cumulative net flow of funds between a foreign-affiliated company and its foreign owners. The U.S. Department of Commerce, the agency that collects data on FDI, measures FDI as the book value of foreign direct investors' equity interest in and net outstanding loans to their U.S. affiliates. The Department of Commerce defines a U.S. affiliate as a U.S. business enterprise in which one foreign direct investor owns 10 percent or more of the voting securities or the equivalent.

[8]U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, June 1993), p. 53.

[9]Enterprises classified as petroleum operations (including natural gas) and coal mining accounted for 96 percent of all energy-related FDI in the United States, which amounted to $40.8 billion in 1992. The U.S. Department of Commerce classifies uranium mining in the "other metallic ores" industry. The value of FDI in the industry classification, "electric, gas, and sanitary services," which includes gas and electric utilities, amounted to 6 percent of FDI in U.S. energy.

[10]One component of FDI consists of equity and intercompany account capital flows between a foreign investor and its U.S. affiliate measured on a net basis. Since this component is measured on a net basis, it can have a negative value, resulting in a negative change in FDI position, as occurred in 1991 and 1992.

Figure 1. Value of FDI-Related Acquisitions in U.S. Energy and Annual Change in FDI Position in Petroleum and Coal, 1981-1992



Sources: Value of FDI-related acquisitions: Tables A1 and A2 in the Appendix of this report and Tables A1, A2, and A3 from previous editions of this report. Change in FDI: calculated as annual change in FDI position, based on latest consistent set of revisions, appearing in the August issues of U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* for 1985-1993.

Upstream Petroleum Investment

Acquisitions of U.S. upstream assets by foreign investors equaled $0.9 billion during 1992, while divestitures totaled $0.5 billion (Table 1). Compared with an average of the years in the first half of the 1980's, foreign investment in U.S. exploration and production has been small in recent years (Figure 2). The exception was 1988, when the market for oil and gas assets was stimulated by Tenneco, Inc.'s $8-billion divestiture of its petroleum assets.[11] Generally lower oil and gas prices since the oil price collapse of 1986 reduced the expected profitability of oil and gas investment and encouraged cutbacks through a rationalization of asset holdings. Upstream petroleum-related transactions in 1992 that had a value of $100 million included:

Acquisitions

- Santa Fe Resources Inc. merged with Adobe Resources Corp in a transaction valued at $450 million.
- Anadarko Petroleum Corp. paid $190 million to ARCO for reserves and certain exploration rights in Texas and New Mexico.
- Louis Dreyfus Natural Gas Corp. acquired all of DeKalb Energy Company's U.S. properties, except those in California, for a value of $104 million.

Divestitures

- Hondo Oil & Gas Co. sold all its domestic oil and gas properties for $139 million to Devon Energy Corp.

[11]Energy Information Administration, *Foreign Direct Investment in U.S. Energy 1988*, DOE/EIA-0466(88) (Washington DC, December 1989).

Table 1. Value of FDI-Related Transactions in U.S. Energy, 1990-1992
(Million Dollars)

Acquisitions/Divestitures	1990	1991	1992
Acquisitions			
Oil and Gas Production[a]	901	1,043	949
Petroleum Refining, Marketing, and Transport	1,040	103	173
Coal	1,416	570	1,276
Other Energy	0	0	0
Total Acquisitions	3,357	1,716	2,398
Divestitures			
Oil and Gas Production[a]	474	736	461
Petroleum Refining, Marketing, and Transport	59	400	60
Coal[b]	841	155	869
Other Energy	0	0	0
Total Divestitures	1,374	1,291	1,390

[a]Includes drilling and drilling services.
[b]1990 includes Newmont Mining's sale of their 55-percent interest in Peabody Holding Company for $726 million, while 1992 includes Shell Oil's divestiture of its coal operations for $850 million.
Sources: 1992: Based on Tables A1 and A2 in the Appendix of this report. 1991: Based on Tables A1 and A2 in Energy Information Administration, *Profiles of Foreign Direct Investment in U.S. Energy 1991*, DOE/EIA-0466(91) (Washington, DC, April 1993). 1990: Based on Tables A1 and A2 in Energy Information Administration, *Profiles of Foreign Direct Investment in U.S. Energy 1990*, DOE/EIA-0466(90) (Washington, DC, April 1992).

Although some of the larger foreign-affiliated divestitures involved independent producers, the majors continued to be responsible for much of the restructuring taking place in the upstream U.S. petroleum industry (See Box on page 7 for a list of the largest transactions). The year 1992 was the third year in a row in which the majors were net sellers of domestic oil and gas reserves, although a large number of these transactions involved solely U.S. companies and thus had no impact on the FDI position in upstream petroleum.[12]

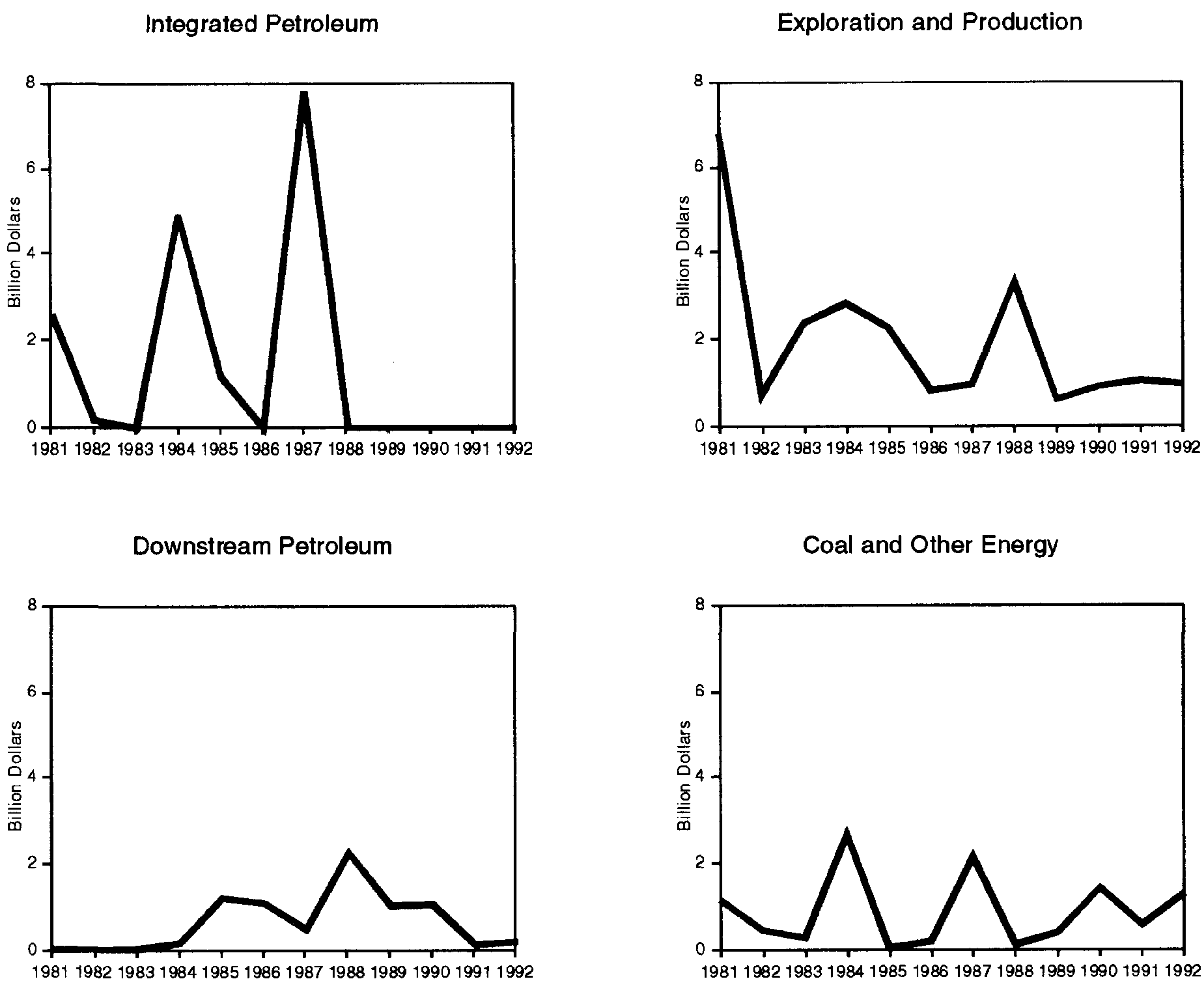
Downstream Petroleum Investment

Only two downstream petroleum transactions during 1992 were of $100 million or more in value. The largest U.S. acquisition in 1992 in refining/marketing involving a foreign-affiliated company was Horsham Corp's purchase of the remaining 40 percent of Clark Oil & Refining Corp. for $100 million (Box on page 7). The largest downstream divestiture involved Lasmo PLC's spinoff of its California refinery, along with two Canadian refineries and roughly 1,500 service stations located in California and Canada. The U.S.-based Ultramar Corporation was formed in April 1992 to acquire these assets. Ultramar reported assets of $1.8 billion in 1992.[13]

Many of the recent new FDI-related commitments in U.S. refining and marketing operations reflect a rounding out of interests originally developed in the late 1980's. During the 1985-1990 period, foreign acquisitions of downstream assets annually ranged from $1 billion to $2 billion (Figure 2). Beginning in 1986, most of the foreign acquisitions of U.S. downstream operations reflected the movement of Venezuelan and Saudi Arabian state energy companies into the U.S. market. Kuwait, Venezuela, and Saudi Arabia, who are all members of the Organization of Petroleum Exporting Countries (OPEC), acquired downstream petroleum assets in industrialized countries in order to integrate their oil production

[12]Energy Information Administration, *Performance Profiles of Major Energy Producers 1992*, DOE/EIA-0206(92) (Washington, DC, January 1994), pp. 10-11.
[13]*The Montreal Gazette*, June 30, 1992, p. F2.

Figure 2. Value of FDI-Related Acquisitions by Energy Segment, 1981-1992



Sources: Tables A1 and A2 in the Appendix of this report and Tables A1, A2, and A3 from previous editions of this report.

operations with petroleum refining and marketing (vertical integration). Vertical integration tends to moderate income fluctuations stemming from frequent, wide swings in the price of crude oil. Also, assured placement of oil production can be a benefit of vertical integration. During this period, Venezuela acquired Champlin Petroleum and its refinery in Texas (130,000 barrels per day of crude distillation capacity), and Citgo Petroleum and its Louisiana refinery (305,000 barrels per day capacity). Most recently, Seaview Petroleum, with a 44,000 barrels per day refinery in New Jersey, was added to the assets of Citgo Petroleum. Petroleos de Venezuela, S.A. (PDVSA) also developed a 50-percent partnership with Unocal Corporation in the Uno-Ven joint venture and its 147,000 barrels per day capacity refinery in Illinois. In 1988, Saudi Arabia, through their Aramco subsidiary, formed the Star Enterprise joint venture with Texaco, which involved three refineries with a total capacity of 615,000 barrels per day. The share of U.S. refinery capacity associated with Venezuelan and Saudi Arabian interests rose from zero in 1985 to 8 percent in 1991, and remained at 8 percent in 1992 (Chapter 4). Both countries' shares of retail gasoline outlets rose from zero to 12 percent between 1985 and 1992. In total, foreign-affiliated companies owned 28 percent of U.S. refining capacity in 1992, and were responsible for a third of all gasoline sales.

Major FDI-Related Transactions in the U.S. Energy Industry, 1992

Acquisitions

Zeigler Coal Holding Co. bought Shell Oil Co.'s coal production and marketing business in a cash-and-stock transaction valued at $850 million. This transaction left Shell with a 25-percent stake in Zeigler; Shell, however, retained certain undeveloped reserves.

Santa Fe Energy Resources Inc. acquired Adobe Resources Corp. in a merger valued at $450 million.

Ashland Coal acquired Dal-Tex Coal, West Virginia, from United Coal Company for approximately $242 million.

Anadarko Petroleum Corp. paid $190 million to Arco for oil and gas and certain exploration rights in Texas and New Mexico.

Peabody Holding Co. closed a deal with American Electric Power to buy an American Electric Power coal mine for $165 million.

Louis Dreyfus Natural Gas Corp. acquired all of DeKalb Energy Company's U.S. properties, except those located in California, for $104 million.

Horsham Corp. acquired the remaining 40 percent of Clark Oil and Refining Corp. for $100 million. Horsham initially purchased a controlling interest in Clark in 1989.

Castle Energy Corp. paid Arco $95 million for interests in oil and gas producing properties and pipeline operations.

Divestitures

The largest divestiture in 1992 was simply the flip side transaction to the Zeiglers' acquisition of Shell's coal assets mentioned above. Again, the value of Shell's divestiture transaction was estimated at $850 million.

Hondo Oil & Gas Co. sold all its domestic oil and gas properties for $139 million to Devon Energy Corp.

Presidio Oil Company sold its Mountain Gas Resources subsidiary to Leveraged Equity Fund II L.P. for $85 million.

Shell Oil Company sold a 97-percent stake in oil and gas properties located in the Gulf of Mexico for $67 million.

Shell Oil Company also sold oil and gas properties located in Oklahoma and Texas to Utilicorp United Inc. for $55 million.

Lasmo PLC spun off 3 refineries and roughly 1,500 service stations located in California and Canada. Ultramar Corporation was formed in April 1992 to acquire these assets. Ultramar had reported assets of $1.8 billion in 1992.

Coal Investment

The largest FDI-related transaction in 1992 involved coal assets, as was true in 1990 and 1991. Shell sold its coal production and marketing business to Zeigler Coal Holding Co. The value of the cash-and-stock transaction is estimated at $850 million. In return, Shell acquired a 25-percent stake in Zeigler Coal Holding Co. valued at $348 million. Over the past several years, many major petroleum companies have shed coal assets. Most of the divested coal reserves have been located in the higher-cost eastern region of the United States—but close to export markets. European companies have been the most active purchasers of the majors' coal reserves. In 1991, the largest FDI-related transaction in U.S. energy also involved the acquisition of domestic coal assets. RWE AG of Germany acquired a 50-percent share of Consol Energy, which was formed from Du Pont's Consolidation Coal unit, with Du Pont retaining a 50-percent share. Consol Energy is the second largest producer of U.S. coal. In 1990, Peabody Holding Company, the largest U.S. coal producer, was acquired by Hanson PLC of the United Kingdom for $1.2 billion.[14] Other foreign-affiliated coal transactions included Ashland Coal's acquisition of Dal-Tex Coal for $242 million, and Peabody Holding Company's $165 million dollar purchase of a coal mine from American Electric Power. Ashland Coal is partially owned by Saarberg Coal International of Germany.

The year 1992 continued the growth in foreign affiliates' role in U.S. coal production. In 1980, the foreign affiliates' share of U.S. coal mining production was under 5 percent. That same year the foreign affiliates' share of gas production, crude oil production, and refining capacity all exceeded that of coal. In 1992, the foreign affiliates' share of domestic coal production (at 26 percent) was exceeded only by their share of crude oil refining capacity.

The recent attraction of U.S. coal production for foreign investors is not strongly related to the current profitability of this line of activity. It reflects, instead, hopes of future profits flowing from reforms associated with the economic unification of the European Community. In the context of economic unification, European coal industries will be restructured as high levels of coal production subsidies are phased out. It is anticipated that U.S. production for export will grow as a consequence. In particular, Germany and the United Kingdom are expected to downsize their domestic coal industries through subsidy reductions, making substantial portions of their coal industries submarginal in terms of profitability, thus reducing their coal output.

Higher cost ~~eastern~~ Appalachian (ie, eastern) coal bought, but is lower cost than European coal w/ export costs considered (i.e., eastern ~~east~~ coal is cheaper to export vis a vis interior or western.)

[14]Energy Information Administration, *Profiles of Foreign Direct Investment in U.S. Energy 1991*, DOE/EIA-0466(91) (Washington DC, April 1993).

3. Patterns of Overall Foreign Direct Investment in 1992

Additions to overall FDI in the United States declined to $5.2 billion in 1992, from $19.4 billion in 1991. Much of this decline was concentrated in the service industries (particularly insurance and wholesale trade), although nearly all industrial sectors registered declines (Table 2).[15] Real estate was the one sector where additions to FDI showed a positive movement from a negative $506 million in 1991, to a positive $811 million in 1992. At the country level, Japan supplanted the United Kingdom as the leading source of overall foreign direct investment in 1992 (Table 3). Nevertheless, Japan and the United Kingdom registered respective declines of $6.0 billion and $7.4 billion in additions to overall FDI in the United States. Japan's decline was evident in virtually all areas of its U.S. investments. In contrast, the decline in the United Kingdom's FDI was concentrated in petroleum, services, and other industries. The Netherlands, in 1992, remained the third-ranking FDI nation, although the Netherlands remained the largest source of direct investment in U.S. petroleum.

Table 2. Targets of Foreign Direct Investment by U.S. Industry, 1990-1992
(Billion Dollars)

Industry	Foreign Direct Investment Position			Net Additions	
	1990	1991	1992	1991	1992
Total U.S. Industry	394.9	414.4	419.5	19.4	5.2
Petroleum	42.9	40.2	38.5	-2.7	-1.7
Manufacturing					
Food & Kindred Products	22.5	23.8	25.9	1.2	2.1
Chemicals & Allied Products	45.7	48.4	50.3	2.7	1.8
Primary & Fabricated Metals	13.7	13.2	13.2	-0.5	0.0
Machinery	27.6	28.6	26.4	1.0	-2.2
Other Manufacturing	43.2	42.7	43.8	-0.5	1.1
Services					
Wholesale Trade	50.9	55.5	56.9	4.6	1.5
Retail Trade	9.2	8.9	9.3	-0.4	0.4
Banking	18.4	21.5	22.8	3.1	1.3
Finance except Insurance	8.4	10.7	11.0	2.3	0.3
Insurance	27.1	34.2	34.0	7.0	-0.1
Real Estate	34.9	34.4	35.2	-0.5	0.8
Other Services	30.6	33.6	35.4	3.0	1.7
Other Industries	19.6	18.8	16.8	-0.8	-1.9

Note: Sum of components may not equal total due to independent rounding.
Source: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, July 1993).

[15]Data in this paragraph were obtained from U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, July 1993), pp. 65-67 and 83-85.

Table 3. Geographic Sources of Foreign Direct Investment in Total U.S. Industry, 1990-1992
(Billion Dollars)

Country	Foreign Direct Investment Position			Net Additions	
	1990	1991	1992	1991	1992
All Countries	394.9	414.4	419.5	19.4	5.2
Canada	29.5	37.3	39.0	7.8	1.7
Europe					
United Kingdom	98.7	100.4	94.7	1.7	-5.7
Netherlands	64.7	59.4	61.3	-5.3	2.0
Germany	28.2	28.6	29.2	0.4	0.6
Other Europe	55.7	62.9	63.2	7.1	0.3
Latin America					
Venezuela	0.5	0.5	0.5	0.0	0.0
Netherlands Antilles	13.0	7.9	8.5	-5.1	0.6
Other Latin America	6.7	9.2	9.9	2.5	0.7
Australia	6.5	6.1	7.1	-0.5	1.1
Other OPEC	3.7	3.6	3.7	-0.1	0.1
Japan	83.1	92.9	96.7	9.8	3.8
Other Countries	4.5	5.5	5.6	1.0	0.0

Note: Sum of components may not equal total due to independent rounding.
Source: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, July 1993).

Although the FDI data published by the U.S. Department of Commerce pose difficulties in assessing particular targets of investment within the energy industries, these data are useful for comparing FDI in U.S. energy with overall FDI in the United States, at least in the case of petroleum. The Commerce Department's classification procedure, however, causes a problem relative to the analysis of coal-related FDI.[16] Due to the relatively large ownership of U.S. coal resources by foreign conglomerates, whose primary industry classifications are frequently in businesses other than coal mining, Commerce-reported FDI understates the growing foreign presence in U.S. coal mining in recent years. To gauge the foreign affiliates' investment trend in U.S. coal mining it is necessary to look at the number and value of individual coal-related transactions, as profiled in Chapter 2 and Chapter 4.

[16]Three limitations of the U.S. Department of Commerce data can pose difficulties in assessing targets of investment among foreign investors. First, revisions of industry classifications of foreign-affiliated U.S. companies are made for only the most recent years. For example, in the data for 1992, revisions were made retroactive through 1990. Consequently, the change in FDI position between 1988 and 1989 is, to some unknown extent, due solely to industry reclassifications. Second, the industry classifications of foreign-affiliated companies may ascribe significant energy investment activity to nonenergy industries. For example, the highly diversified Hanson PLC acquired 100 percent of Peabody Holding Company (the leading producer of U.S. coal) in 1990 for $1.2 billion. However, the effect on FDI of this acquisition appears to have been classified to an industry other than coal. Third, FDI measures net financial flows between parent and U.S. subsidiary, which can obscure the interpretation of FDI statistics. For example, a large repayment in the reporting year to a parent company of debt incurred in an earlier acquisition can reduce FDI even though FDI-related acquisition activity may have increased substantially in the reporting year.

In 1992, the petroleum industry's share of overall FDI, at roughly 9 percent, was at a historical low (Table 4). The petroleum industry share of FDI has declined in nearly every year since the oil price crash of 1986. Prior to 1986, oil and gas production was an important focus of energy investments (Figure 2). Since 1986, however, sharply lower oil prices reduced the attractiveness of upstream petroleum investment. While foreign interest in U.S. petroleum refining and marketing increased some in the late 1980's, FDI in other U.S. industries was the focus of greater growth. Additions to overall FDI in the United States rose sharply to over $50 billion in both 1988 and 1989, after averaging less than $20 billion a year in the first half of the 1980's.[17] In addition to the size and wealth of the U.S. economy, the attractions of the United States as a target for foreign investors included sustained economic growth and a lower-valued dollar in the late 1980's. However, recession and reduced economic growth afflicted the U.S. economy beginning in late 1989. At about the same time, new developments affected two of the largest sources of FDI in the United States. Germany became unified, which resulted in diversions of German investment away from the United States. The FDI position of Germany rose slightly in 1992 but is still at low levels relative to the levels maintained during the 1980's. At the same time, Japan, the largest source of FDI in 1992, began to experience the most serious economic and financial difficulties since the mid-1970's. In 1992, the FDI position in the United States traceable to Japanese interests increased by only $4 billion, less than half the $10 billion increase reported for 1991. In contrast, over the 1988-1990 period, the additions to Japan's overall FDI position in the United States averaged $15.8 billion, annually.

Table 4. Foreign Direct Investment in U.S. Petroleum and Coal, 1980-1992

Year	Foreign Direct Investment in U.S. Petroleum[a,b]	Foreign Direct Investment in U.S. Coal[a]	Total Foreign Direct Investment in U.S.[a]	Petroleum as a Percent of Total	Coal as a Percent of Total
	(billion dollars)				
1980	12.2	0.5	83.0	14.7	0.6
1981	15.2	1.1	108.7	14.0	1.0
1982	17.7	1.2	124.7	14.2	1.0
1983	18.2	1.3	137.1	13.3	0.9
1984	25.4	2.6	164.6	15.4	1.6
1985	28.3	2.9	184.6	15.3	1.6
1986	29.1	3.5	220.4	13.2	1.6
1987	37.8	3.3	263.4	14.4	1.3
1988	36.0	5.3	314.8	11.4	1.7
1989	40.3	0.9	368.9	10.9	0.2
1990	42.9	0.8	394.9	10.9	0.2
1991	40.2	1.3	414.4	9.7	0.3
1992	38.5	1.6	419.5	9.2	0.4

[a]Foreign Direct Investment (FDI) is the value of foreign parents' net equity in, and outstanding loans to, affiliates in the United States at the end of the year.

[b]The petroleum industry includes all phases of oil and gas exploration and production, petroleum refining, petroleum transport, and petroleum marketing.

Sources: 1990-1992: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, August 1993). 1987-1989: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, August 1992). 1985-1986: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, August 1990). 1981-1984: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, August 1986). 1980: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, October 1984).

[17]Data in this paragraph were obtained from U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, July 1993), pp. 65-67 and 83-85.

Although Japan and Germany are important sources of overall FDI in the United States, ranking first and fifth in 1992, respectively, they are minor sources of foreign investment in U.S. petroleum (Table 5). Most FDI in petroleum comes from the United Kingdom (31 percent of petroleum-related FDI in 1992) and the Netherlands (32 percent). These shares largely reflect 100-percent ownership of two major integrated petroleum companies: BP America (owned by British Petroleum) and Shell Oil (owned by the Royal Dutch/Shell Group). The United Kingdom (U.K.) share has slipped noticeably in recent years. In 1989, U.K. petroleum investment accounted for 41 percent of total foreign-affiliated investment in U.S. petroleum. The bulk of the U.K. decline in 1992 appeared traceable to an outflow of capital related to intercompany debt (e.g., repayment by a U.S. subsidiary of borrowings owed to their foreign parent company).[18]

The composition of sources of petroleum-related FDI by country and region has shifted noticeably since 1982 (Figure 3). Although the United Kingdom and the

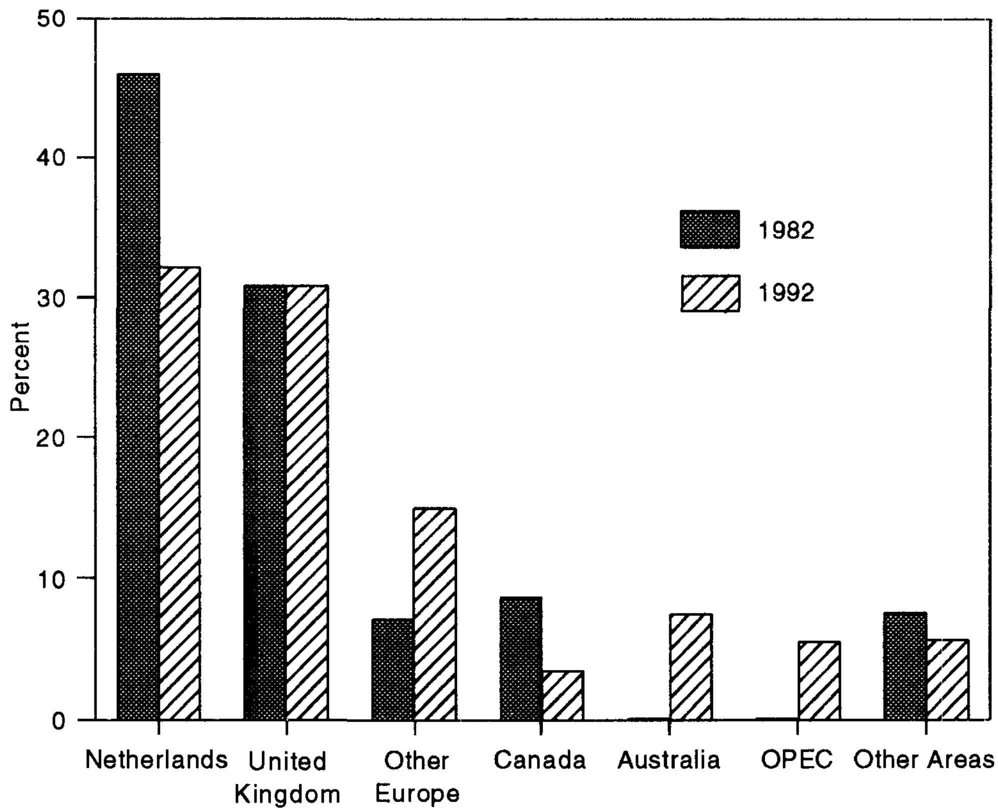
Table 5. Geographic Sources of Foreign Direct Investment in U.S. Petroleum, 1990-1992

Source	1990	1991	1992	1990	1991	1992
	(million dollars)			(percent of total)		
All Countries	42,882	40,196	38,545	100.0	100.0	100.0
Canada	1,373	1,413	1,342	3.2	3.5	3.5
Europe						
United Kingdom	15,900	14,355	11,863	37.1	35.7	30.8
Netherlands	13,267	12,398	12,373	30.9	30.8	32.1
Germany	144	219	-172	0.3	0.5	0.6
Other Europe	4,973	4,726	5,951	11.6	11.8	15.4
Latin America[a]						
Venezuela	388	390	(b)	0.9	1.0	(b)
Netherlands Antilles	(b)	1,425	1,485	(b)	3.5	3.9
Other Latin America	1,990	594	(b)	4.6	1.5	(b)
Australia	2,599	2,664	2,892	6.1	6.6	7.5
Other OPEC[c]	2,040	1,854	(b)	4.8	4.6	(b)
Japan	69	148	-2	(d)	0.4	(d)
Other Countries	139	10	(b)	0.3	0.2	(b)

[a]Latin America includes South America, Central America, and the Caribbean (outside of U.S. possessions and territories).
[b]Data withheld by the U.S. Department of Commerce to prevent disclosure but included in Other Latin America in 1990.
[c]OPEC is the Organization of Petroleum Exporting Countries. Its members are Algeria, Ecuador, Gabon, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.
[d]Less than 0.05 percent.
Source: U.S Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, July 1993).

[18]U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, June 1992), p. 59.

Figure 3. Percent Distribution Across Countries and Regions of Foreign Direct Investment in U.S. Petroleum, 1982 and 1992



Source: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, August 1985 and 1993).

Netherlands accounted for the majority of FDI in U.S. petroleum in both 1982 and 1992, their combined share fell from 77 percent to 63 percent over the period. This decline, in part, reflects major restructurings of Shell Oil and BP America. In recent years, in the context of lower expected oil prices, these companies (along with nearly all of the major U.S. petroleum companies) sold or otherwise disposed of assets that were of marginal value to them or that were not integral to their longer-term investment strategies. This includes abandonment of diversification strategies involving nonenergy and non-petroleum activities.

The more than doubling of the share of FDI from other European countries, from 7 percent to 15 percent, stemmed mainly from the growth in investment by the two largest French energy companies, Total and Elf Aquitaine. Belgium-based Petrofina, through their U.S. subsidiary, Fina Inc., has also been a significant source of foreign investment in U.S. petroleum operations. All of these companies have made numerous incremental additions to their U.S. petroleum investments, although a substantial portion of the gain in other European FDI is related to American Petrofina's $600 million purchase of Tenneco oil and gas production properties in 1988.[19]

[19]Energy Information Administration, *Profiles of Foreign Direct Investment in U.S. Energy 1988*, DOE/EIA-0466(88) (Washington, DC, December 1989), p. ix.

European nations accounted for the bulk of U.S. petroleum FDI, both in 1982 and 1992. However, the steepest increases in FDI over the 1982-1992 period have come from Australia and the OPEC nations. The FDI position of Australian investors, relative to total FDI in U.S. petroleum, rose from zero to 8 percent, largely as a result of Broken Hill Proprietary Co. Ltd.'s (BHP) entry into U.S. energy. BHP is primarily involved in the production and distribution of energy and minerals and is Australia's largest industrial company. Through a series of large acquisitions in the 1980's, BHP gained a noticeable presence in U.S. oil and gas production, coal production, and refining. The growth in OPEC members' share of FDI, from a fraction of a percent to 6 percent, is largely attributable to the movement of Venezuela's state energy company, Petroleos de Venezuela, S.A. (PDVSA), and Saudi Arabia's Aramco into U.S. refining and marketing beginning in the second half of the 1980's.

Canadian investors' interest in U.S. petroleum operations has shown a long-term decline, beginning in 1981. The Canadian share of petroleum-related FDI was 15 percent in 1980, fell to 9 percent in 1982, and steadily declined to 2 percent in 1991.[20] The decline was initially due to Canadian government policies favoring Canadian ownership of energy resources, located in Canada, which encouraged Canadians to invest in Canadian energy resources, apparently at the expense of U.S. petroleum investments. In addition, in the mid-1980's, the Canadian government relaxed and eventually eliminated most energy price controls, and reduced taxes related to oil and gas. More recently, restrictions on the export of Canadian natural gas were relaxed, resulting in an additional incentive for Canadian investment in their oil and gas resources. However, during 1992, due primarily to Toronto-based Horsham Corp's acquisition of the remaining 40 percent of Clark Oil & Refining Corp. for $100 million (Table A1), Canadian investor's interest in U.S. petroleum rose to 3.5 percent of total foreign investment in U.S. petroleum.

Outward Investment in Petroleum

Investment flows out of the United States as well as into the United States. Direct investment abroad (DIA), which is also reported by the U.S. Department of Commerce, is the value of U.S. parent companies' net equity in, and loans to, affiliates outside the United States. The DIA position in petroleum operations abroad, relative to total DIA in all industries, peaked at 28 percent in the 1982 through 1984 period (Table 6). Since then, the value of the DIA position in petroleum has not changed significantly. However, DIA outside of petroleum increased by nearly 300 percent since 1984 as U.S. corporations responded to opportunities and competitive pressures stemming from growth in international trade.[21] As a result, petroleum-related DIA was only 11 percent of total DIA in 1992. The largest increase in DIA has been directed at the acquisition or creation of European holding companies in anticipation of European integration. As defined by the Department of Commerce, these holding companies may involve a single or a variety of activities.

Direct investment abroad measures only the net flow of funds between U.S. companies and their foreign-based affiliates. A positive change in this measure does not necessarily indicate a greater level of expenditures by U.S. companies abroad nor does a negative change always indicate a diminished interest in foreign petroleum operations. For petroleum companies, capital and exploratory expenditures are a more direct measure of U.S. companies' targets of investment abroad. Over the 1981 through 1986 period, petroleum-related DIA rose by 10 percent (Table 6); however, U.S. companies' expenditures for foreign exploration and development (E&D) were declining (Figure 4). On the other hand, DIA in overall petroleum dropped sharply between 1988 and 1989 because of divestitures related to restructurings. However, over the same period, foreign E&D spending rose.

Since the 1986 oil price crash, foreign E&D expenditures have grown considerably.[22] The realization of higher returns on foreign versus domestic upstream operations drove these investments. The 25 companies reporting to

[20]Energy Information Administration, *Foreign Direct Investment in U.S. Energy 1991*, DOE/EIA-0466(91) (Washington, DC, April 1993), and earlier editions.

[21]Data in this paragraph were obtained from U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, July 1993), pp. 65-67 and 83-85.

[22]Energy Information Administration, *Performance Profiles of Major Energy Producers 1992*, DOE/EIA-0206(92) (Washington, DC, January 1994), Table B34.

Table 6. U.S. Direct Investment in Foreign Petroleum, 1980-1992

Year	U.S. Direct Investment in Foreign Petroleum[a,b]	Total U.S. Direct Investment Abroad[a]	Petroleum as a Percent of Total
	(billion dollars)		
1980	47.6	215.4	22.1
1981	53.2	228.3	23.3
1982	57.8	207.8	27.8
1983	57.6	207.2	27.8
1984	58.1	211.5	27.5
1985	57.7	230.2	25.1
1986	58.5	259.8	22.5
1987	59.8	314.3	19.0
1988	57.8	335.9	17.2
1989	51.4	372.4	13.8
1990	57.0	424.1	13.4
1991	55.9	461.0	12.1
1992	55.2	486.7	11.3

[a]Direct Investment Abroad is the value of U.S. parents' net equity in, and outstanding loans to, affiliates outside the United States.

[b]The petroleum industry includes all phases of oil and gas exploration and production, petroleum refining, petroleum transport, and petroleum marketing.

Sources: 1987-1992: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, July 1993). 1985-1986: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, August 1990). 1982-1984: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, August 1987). 1980-1981: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business* (Washington, DC, August 1985).

the Energy Information Administration's Financial Reporting System (FRS) accounted for over 90 percent of U.S. companies' foreign E&D expenditures for oil and gas.[23] To dramatize the magnitude of change in the FRS companies' exploration strategy emphasizing foreign development, it should be noted that their 1992 levels of exploration and development spending abroad were 72 percent larger than in 1986, while their U.S. exploration spending had declined more than 41 percent.

Investments in Organization for Economic Cooperation and Development (OECD) Europe prospects accounted for 67 percent of the increase in FRS foreign E&D spending over the 1986-1992 period.[24] The heightened focus on North Sea prospects resulted in OECD Europe's share of FRS foreign E&D expenditures increasing from 42 percent of total foreign E&D spending in 1986 to 53 percent of foreign E&D spending in 1992.[25] The Other Eastern Hemisphere region followed OECD Europe in importance, as measured by E&D expenditures. This region accounted for 22 percent of the total gain in FRS foreign E&D spending, and in 1992 accounted for 19 percent of total FRS E&D spending abroad.[26]

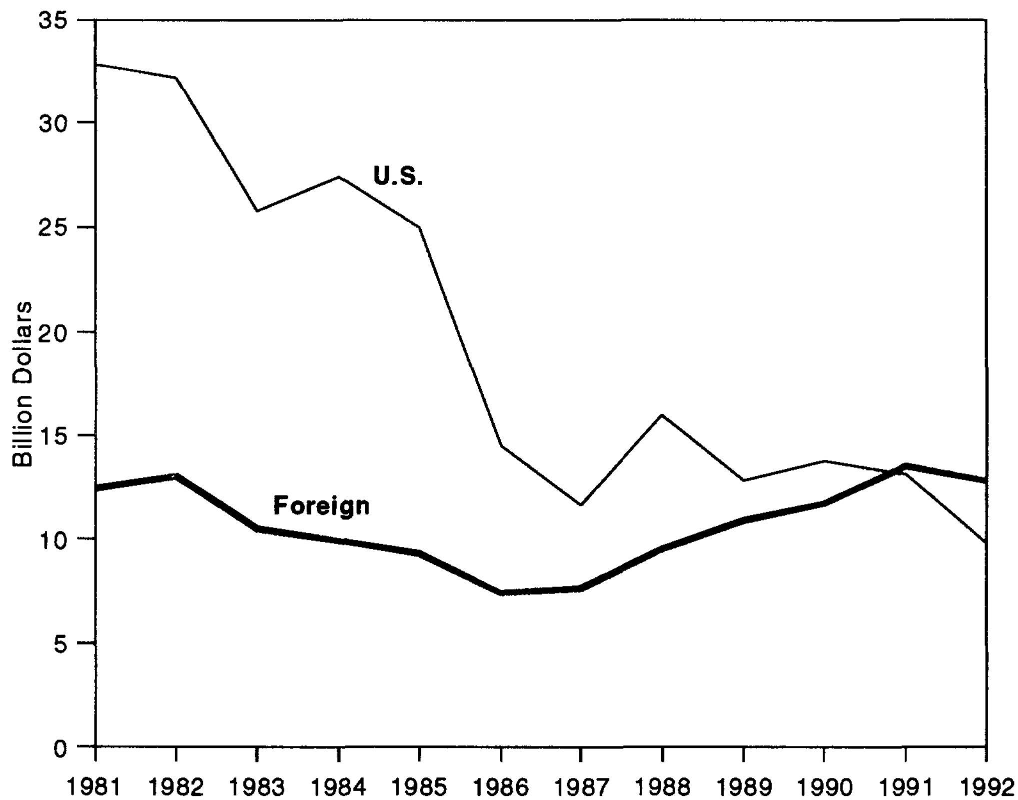
[23]Based on data contained in Arthur Andersen & Co., *Oil and Gas Reserve Disclosures* (Chicago, 1993), the 25 FRS companies accounted for 92 percent of foreign exploration and development expenditures made by U.S.-based companies in 1992.

[24]Energy Information Administration, *Performance Profiles of Major Energy Producers 1992*, DOE/EIA-0206(92) (Washington, DC, January 1994), Table B34.

[25]Energy Information Administration, *Performance Profiles of Major Energy Producers 1992*, DOE/EIA-0206(92) (Washington, DC, January 1994), Table B34.

[26]Energy Information Administration, *Performance Profiles of Major Energy Producers 1992*, DOE/EIA-0206(92) (Washington, DC, January 1994), Table B34.

Figure 4. Exploration and Development Expenditures of the FRS Companies, 1981-1992



Source: Energy Information Administration, *Performance Profiles of Major Energy Producers 1992*, DOE/EIA-0206(92) (Washington, DC, January 1994).

However, for the year 1992, FRS company foreign E&D expenditures declined 6 percent to $12.9 billion, with exploration expenditures bearing the brunt of the decline in total foreign E&D. Most of the decline was in Canada, a producing area with cost-related characteristics similar to the United States.[27] The majors reduced their E&D expenditures in the United States by 27 percent between 1991 and 1992. Recent cuts in overall exploration spending reflect current world oil price uncertainties. In 1992, aggregate world producing capacity was large relative to current demand, especially when potential supplies from Iraq are considered. In 1992, world oil prices declined 3 percent following a decline of 17 percent in 1991.[28] In real terms prices were nearly equal to their 1986 levels, following the oil price crash. In this context, companies shy away from aggressive exploration programs, which require long-term commitments and greater exposure to risk, favoring more secure development projects, which usually have quicker payouts.

[27]Energy Information Administration, EIA Form-28.

[28]Unless otherwise noted, energy industry price and quantity data are from Energy Information Administration, *Monthly Energy Review, January 1994*, DOE/EIA-0035(94/01) (Washington, DC, January 1994), the *Historical Monthly Energy Review*, 1973-1988, DOE/EIA-0035(73-88) (Washington, DC, September 1991), and the *Annual Energy Review 1992*, DOE/EIA-0384(92) (Washington, DC, June 1993).

There has been considerable DIA activity in the foreign refining/marketing sector as well. Although the major petroleum companies that own foreign refining and marketing facilities have been consolidating these operations, the retained assets have been targets of investment. Much of this investment has been directed toward upgrading refineries to produce more gasoline, diesel, and other lighter products. Excluding the effects of mergers and acquisitions, the majors' capital expenditures for foreign refining and marketing steadily rose between 1986 and 1991, from $2.0 billion to $3.9 billion. These added investments were concentrated in Europe and the Other Eastern Hemisphere regions.[29] The pickup in foreign downstream petroleum investment has been due, in part, to the more rapid growth in demand for petroleum products overseas. After reaching a trough during the early 1980's, demand for petroleum products outside the United States grew at an average annual rate of 6 percent, placing strains on existing refining capacity.[30] During the past decade, the profitability of the majors' foreign refining/marketing operations exceeded the return on domestic downstream investments by nearly 4 percentage points.[31] Partly due to European economic recession, however, the majors' additions to investment in foreign locales slipped 6 percent in 1992.[32]

[29]Chevron Corporation, *Supplement to the 1992 Annual Report*, p. 44; Exxon Corporation, *1992 Annual Report Supplement*, p. 46; Mobil Corp., *1992 Mobil Fact Book*, p. 60.

[30]Energy Information Administration, *Performance Profiles of Major Energy Producers 1992*, DOE/EIA-0206(92) (Washington, DC, January 1994), Table B34.

[31]Energy Information Administration, Form EIA-28.

[32]Energy Information Administration, *Performance Profiles of Major Energy Producers 1992*, DOE/EIA-0206(92) (Washington, DC, January 1994), Table B34.

4. The Operational Role of Foreign-Affiliated Companies in U.S. Energy Production

Transactions data and information drawn from the U.S. Department of Commerce's international investment surveys are useful for discerning the overall investment targets of foreign investors and the changing relative importance of their interest in U.S. energy. However, these data yield no information on the operational role of foreign-affiliated enterprises in U.S. energy activities in 1992 or over time. In this chapter, the involvement of foreign-affiliated companies in the areas of upstream and downstream petroleum operations (including natural gas production), coal production, and uranium exploration and development are reviewed. Generally, the shares of U.S. oil and gas activities of foreign-affiliated companies in 1992 were down slightly, reflecting the reduced level of acquisitions and continued divestitures of U.S. assets, while foreign affiliates' shares of other energy activities were up slightly or unchanged. The financial performance of foreign-affiliated companies also trended downward in 1992.

Oil and Gas Reserves and Production

Three companies account for roughly 90 percent of the foreign-affiliated companies' involvement in U.S. oil production. These companies are BP America, Shell, and Du Pont. Foreign affiliates' U.S. oil (crude oil and natural gas liquids) production fell 79,000 barrels per day between 1991 and 1992 (Table 7), representing a 5-percent decline from 1991. Total U.S. production fell a lesser 2-percent between 1991 and 1992, and as a consequence, foreign affiliates' share of total U.S. crude oil production fell to 15.5 percent in 1992, from 16.1 percent in 1991. BP America accounted for two-thirds of the total decline in foreign-affiliated U.S. oil production. This decline is largely attributable to falling production from BP America's Prudhoe Bay field and also to the sale of TEX/CON in 1991. Prudhoe Bay production entered a mature phase during the late 1980's, having peaked in 1988. However, some of the natural rate of decline has been abated with the introduction of two gas handling systems in the early 1990's.

In contrast to oil, the foreign share of natural gas production was unchanged in 1992 (Table 7). Shell Oil's increased gas production from a Louisiana field and the first full year of operation for a Shell field located in the Gulf of Mexico offset a reduction in natural gas production by BP America. BP America sold its onshore natural gas fields in October 1991.[33]

The foreign-affiliated companies' share of U.S. oil reserves fell 6 percent between 1991 and 1992, to 17.9 percent of total U.S. crude oil reserves, down from 18.4 percent in 1991 (Table 8). Shell Oil was responsible for most of this decline. In 1992, Shell made a downward revision of its earlier crude oil reserve estimates and disposed of some non-strategic oil and gas properties.[34] Excluding Shell, crude oil reserves of foreign affiliates were down 2 percent from 1991.

Refining and Gasoline Marketing

Downstream, the foreign-affiliated companies' share of total U.S. crude distillation capacity rose from 27.5 percent in 1991 to 28.1 percent in 1992 (Table 9). In April 1992, the U.S. company, Ultramar, was formed to acquire the American Ultramar Inc. and Ultramar Canada Inc. from the British parent Ultramar PLC. This action removed Ultramar's 68,000-barrel-per-day, Wilmington, California refinery from the foreign affiliates' share of U.S. refining capacity. Largely as a result of this loss, foreign affiliates' total U.S. refining capacity fell from 4,312,000 barrels per day to 4,256,000 barrels per day. However, other U.S. refiners shut down 11 refineries during 1992, resulting in a loss of about 520,000 barrels per day of U.S. refining capacity.

[33]British Petroleum Company *Annual Report on Form 20-F 1992*, p. 13.
[34]Shell Oil Company, *1992 Annual Report*, pp. 29 and 51.

Table 7. Net Production of Petroleum and Dry Natural Gas in the United States by Foreign-Affiliated U.S. Companies, 1990-1992

Company	Crude Oil and Natural Gas Liquids[a]			Dry Natural Gas[a]		
	1990	1991	1992	1990	1991	1992
	(thousand barrels per day)			(billion cubic feet)		
BP America	737.0	738.0	685.8	[b]115.0	[b]78.8	[b]38.0
Shell Oil Company	460.3	457.5	445.4	517.0	501.0	532.0
Du Pont	120.5	120.5	112.0	237.0	276.0	279.0
Santa Fe Energy Resources	52.1	55.2	58.5	37.4	34.8	46.2
Fina	22.5	21.0	19.6	74.8	74.4	75.6
Anadarko Petroleum	11.1	16.9	17.2	148.2	134.4	143.9
Pogo Producing Co.	NF	NF	9.9	NF	NF	40.6
Total Minatome Corporation	11.5	10.7	8.8	51.2	45.5	37.6
BHP Petroleum (Americas)	12.9	10.8	8.0	47.2	48.4	41.8
Hondo Oil and Gas	7.8	7.7	5.5	14.4	12.9	9.7
Presidio Oil Co.	9.1	7.7	5.1	22.4	23.3	19.4
Adobe Resources Corporation	5.3	6.4	(c)	27.3	28.5	(c)
Elf Aquitaine Incorporated	4.4	5.5	5.4	33.5	27.6	28.1
Coho Resources	3.1	3.5	4.4	0.1	0.6	0.9
Norcen Energy Resources	1.1	2.5	3.9	6.7	11.1	13.5
Bridge Oil (USA)	4.9	4.1	3.3	36.4	32.1	29.3
Ultramar[d]	2.6	2.7	0.0	13.2	6.0	0.0
Chieftain Development International	1.5	1.5	1.5	13.9	10.1	12.5
Wintershall Corporation	1.9	0.0	0.0	14.8	0.0	0.0
Sunshine Mining Company	1.6	0.0	0.0	11.0	0.0	0.0
Deminex U.S. Oil Company	1.6	0.0	0.0	3.3	0.0	0.0
Triton Energy Corporation	1.4	NF	NF	3.9	NF	NF
Other Companies	6.4	3.9	3.3	28.3	22.2	26.3
Total Foreign-Affiliated	1,480.6	1,476.1	1,397.6	1,457.0	1,367.7	1,374.4
Total United States	8,994.0	9,168.0	8,996.0	17,810.0	17,751.0	17,840.0
Percent Foreign-Affiliated	16.5	16.1	15.5	8.2	7.7	7.7

[a]Unless otherwise noted, company production is net ownership interest production.
[b]Excludes natural gas consumed in Alaskan operations.
[c]Acquired by Santa Fe Energy Resources in 1992.
[d]Acquired by Lasmo PLC in 1991. Spun off by Lasmo in 1992.
NA = Not available.
NF = No foreign affiliation during this period.
Note: Totals may not equal sum of components due to independent rounding.
Sources: Company data: Form 10-K reports to the U.S. Securities and Exchange Commission and Annual Reports to Shareholders. United States totals: Energy Information Administration, *Monthly Energy Review*, December 1993, DOE/EIA-0035(93/12) (Washington, DC, December 1993).

Table 8. Domestic Oil and Dry Natural Gas Proved Reserves and Production for Foreign-Affiliated U.S. Companies, 1991 and 1992

Fuel Type	Foreign-Affiliated Companies[a]	U.S. Total	Foreign-Affiliated Share of U.S. Total
	(million barrels)		(percent)
Crude Oil and Natural Gas Liquids Proved Reserves			
December 31, 1991	5,926	32,146	18.4
December 31, 1992	5,589	31,196	17.9
1992 Production	512	3,219	15.9
1992 Gross Reserve Additions[b]	175	2,269	7.7
1992 Ratio of Gross Reserve Additions to Production	0.34	0.70	NM
	(billion cubic feet)		
Dry Natural Gas Proved Reserves			
December 31, 1991	15,523	167,062	9.3
December 31, 1992	15,094	165,015	9.1
1992 Production	1,374	17,423	7.9
1992 Gross Reserve Additions[b]	945	15,376	6.1
1992 Ratio of Gross Reserve Additions to Production	0.69	0.88	NM

[a]Reserves and production are on a net ownership interest basis. The reserves and production data, under each fuel type, are for companies identified as foreign affiliated and reporting oil and/or natural gas production during 1992.

[b]Gross reserve additions = annual change in reserves + annual production.

NM = Not meaningful

Source: Foreign-affiliated data: Companies' Form 10-K filed with the U.S. Securities and Exchange Commission and Annual Reports to Shareholders. U.S. totals: Energy Information Administration, *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves 1992 Annual Report*, DOE/EIA-0216(92) (Washington, DC, October 1993).

In 1992, four European companies (Shell, BP America, Total, and Fina) owned roughly half of all the foreign affiliates' U.S. refining capacity and 14 percent of total U.S. refining capacity (Table 9). Two OPEC state oil companies, PDVSA (including the Uno-Ven joint venture) and Aramco (through ownership in the Star Enterprise joint venture), accounted for 29 percent of foreign-affiliated refining capacity and 8 percent of total U.S. refining capacity. Two Canadian U.S. affiliates (Du Pont and Clark) accounted for 13 percent of foreign-affiliated capacity and 4 percent of total U.S. refining capacity.

In the U.S. retail gasoline market, the number of foreign-affiliated branded retail outlets fell 2 percent to 50,537 in 1992 (Table 10). BP America, Shell, Total, and Uno-Ven, all reduced their number of retail gasoline outlets by between 250 to 500 stations, while Ultramar's reclassification resulted in a loss of 390 foreign-affiliated stations. In contrast, Citgo, Star Enterprise, and Du Pont added stations. The overall decline in foreign-affiliated stations, however, was contrasted with the 2-percent rise in the total U.S. number of branded retail outlets. As a consequence, in 1992, foreign-affiliated stations accounted for 24.4 percent of total U.S. branded retail gasoline outlets, down from 25.4 percent in 1991. Nevertheless, the foreign affiliates' share of gasoline supplied was up fractionally to 32.6 percent in 1992, indicating that per-station volume increased at a more rapid pace at foreign-affiliated stations.

Table 9. U.S. Refinery Operations of Foreign-Affiliated U.S. Companies, 1988-1992

Company	Number of Refineries[a]					Total Crude Distillation Capacity[a]				
	1988	1989	1990	1991	1992	1988	1989	1990	1991	1992
						(thousand barrels per day)				
Shell Oil Company	7	7	7	6	6	1,083	1,079	1,083	967	973
BP America	5	5	5	5	5	757	757	734	741	747
Star Enterprise	3	3	3	3	3	NF	615	615	615	615
Petroleos de Venezuela	(b)	(b)	(b)	3	3	(b)	(b)	(b)	479	475
Du Pont	6	5	5	5	5	397	407	407	412	432
Citgo Petroleum	1	1	1	(b)	(b)	305	282	305	(b)	(b)
Fina	2	2	2	2	2	165	165	165	199	199
Total Petroleum, Ltd.	4	4	4	4	4	184	190	198	198	198
Uno-Ven	NF	1	1	1	1	NF	147	147	147	147
Champlin Refining Co.	1	1	1	(b)	(b)	130	130	130	(b)	(b)
Clark Oil & Refining	2	2	2	2	2	128	122	122	122	122
Pacific Resources	NF	1	1	1	1	NF	79	94	94	94
Tesoro Petroleum	NF	1	1	1	1	NF	72	72	72	72
American Ultramar Ltd.	1	1	1	1	1	65	69	66	68	NF
Castle Energy	0	0	1	1	1	0	0	55	55	69
Pacific Refining.	1	1	1	1	1	55	55	55	55	55
Sargent Holdings, Ltd.	1	1	1	1	1	35	44	45	45	45
Seaview Petroleum	NF	NF	1	(b)	(b)	NF	NF	44	(b)	(b)
Hondo Oil	2	1	1	1	(c)	52	30	28	30	(c)
Transworld Oil USA	0	0	1	1	1	0	0	14	13	13
Total Foreign-Affiliated	36	37	40	39	38	3,356	4,243	4,379	4,312	4,256
Total United States	204	205	202	199	187	15,655	15,572	15,676	15,696	15,120
Percent Foreign-Affiliated	17.6	18.0	19.8	19.6	20.3	21.4	27.2	27.9	27.5	28.1

[a]Refineries operable as of December 31st in each year.
[b]Included under Petroleos de Venezuela beginning in 1991.
[c]Closed as of October 2, 1992.
NF = No foreign affiliation during this period.
Sources: Energy Information Administration, *Petroleum Supply Annual*, DOE/EIA-0340 (Washington, DC), 1988-1992.

Coal Production

Coal production in the United States rose slightly between 1991 and 1992, as an increase in electric utility consumption of coal more than offset the combination of stock drawdowns and reduced coal exports. The cost of coal to electric utilities was off more than 2 percent from 1991, bringing delivered coal prices to their lowest levels since 1980. Weak demand and reduced prices had a dampening effect on the coal industry resulting in a disappointing year for coal industry profitability.

The foreign-affiliated companies' share of U.S. coal production rose from 24 percent in 1991 to 26 percent in 1992 (Table 11 and Figure 5). This rise largely reflected the foreign affiliation of Zeigler Coal in 1992. Shell Oil gained a 25-percent interest in Zeigler in the transaction involving Shell's sale of its U.S. coal assets to Zeigler.

Table 10. Branded Retail Outlets and Total Gasoline Supplied by Foreign-Affiliated U.S. Companies, 1988-1992

Company	1988	1989	1990	1991	1992
			Total Branded Retail Outlets		
Citgo Petroleum[a]	7,697	8,463	9,734	11,319	11,938
Star Enterprise	(b)	10,700	10,849	8,653	9,032
Shell Oil Company	10,847	9,763	9,389	8,975	8,536
BP America	7,700	7,560	7,531	7,499	7,244
Du Pont	4,843	4,915	4,659	4,612	4,829
Uno-Ven	(b)	3,550	2,950	3,257	3,004
Fina	3,458	3,177	3,136	2,919	2,539
Total Petroleum North America	2,564	2,719	2,698	2,776	2,349
Clark Oil and Refining	946	944	937	887	873
Ultramar	350	350	400	390	NF
Tesoro Petroleum Corp.	NF	0	132	100	99
Steuart Petroleum Company	NF	0	68	67	66
Hawaiian Independent Refinery	NF	25	25	28	28
Total for Foreign-Affiliated Companies	38,405	52,166	52,508	51,482	50,537
U.S. Total[c]	112,000	111,657	210,120	202,443	207,406
Foreign-Affiliated Companies as Percent of U.S. Total	34.3	46.7	25.0	25.4	24.4
			Total Gasoline Supplied[d] (thousand barrels per day)		
Total for Foreign-Affiliated Companies[e]	1,673	2,084	2,282	2,299	2,369
U.S. Total[f]	7,336	7,328	7,235	7,188	7,268
Foreign-Affiliated Companies as Percent of U.S. Total	22.8	28.4	31.5	32.0	32.6

[a]Jobber-supplied outlets.

[b]Not in existence during this period. Star Enterprise operations began on January 1, 1989,and Uno-Ven operations began in December 1989.

[c]For 1988-1989, the total includes only service station establishments with 50 percent or more of their dollar volume from petroleum product sales. For 1990-1992, the total includes all establishments selling gasoline at retail.

[d]Gasoline Supplied refers to average daily gasoline shipments.

[e]Disaggregated company numbers are considered proprietary by the Energy Information Administration.

[f]Total gasoline supplied.

NF = No foreign affiliation during this period.

Sources: Company station counts: *National Petroleum News Factbook*, 1989-1993 and Annual Reports to Shareholders, except for Du Pont (1990) for which data came from *Du Pont Data 1990*, and Star Enterprise (1990) for which data came from *National Petroleum News* (October 1991). U.S. total outlets: 1988: U.S. Department of Commerce, *Franchising in the Economy, 1987-1989* (Washington, DC, February 1989). 1989: National Petroleum News, *1990 Fact Book*. 1990-1992: National Petroleum News (mid-June 1993). Company gasoline volumes: Energy Information Administration, Form EIA-782c. Total gasoline supplied: Energy Information Administration, *Monthly Energy Review*, December 1993, DOE/EIA-0035(93/12) (Washington, DC, December 1993).

Table 11. Bituminous Coal and Lignite Production and Source of Ownership of Foreign-Affiliated Coal Companies in the United States, 1988-1992

Controlling Company/ Foreign-Ownership Interest	Coal Production[a]				
	1988	1989	1990	1991	1992
	(thousand short tons)				
Peabody Holding Co. (Hanson PLC)[b]	40,726	47,700	93,300	91,700	90,800
Consolidation Coal Co. (Du Pont) JES Holding, Inc	54,900	53,500	54,600	55,200	56,300
Shell Oil Co. Royal Dutch/Shell	24,360	25,500	24,600	24,300	(c)
Zeigler Coal Holding Co. Royal Dutch/Shell Group	NF	NF	NF	NF	41,000
Ashland Coal Co. Saarbergwerke AG/Carborex	4,800	7,000	10,700	12,200	16,700
Costain Coal Co. Costain Group	NA	NA	NA	NA	12,200
Westmoreland Coal Co. Veba Kohle International	10,000	10,800	11,700	11,600	11,800
Utah Minerals International, Inc. Broken Hill Proprietary Co.	13,360	15,200	15,300	11,200	13,400
Pyro Mining Co. Costain Group	6,677	5,885	7,800	7,900	(d)
Andelex Resources, Inc. Andelex Resources, Inc.	3,275	3,900	4,000	4,400	5,400
Agip Coal, Inc. Ente Nazionale Idrocarburi	2,652	3,119	3,101	3,700	3,700
Santa Fe Pacific Coal Corp. Olympia and York, Ltd.	2,107	2,342	2,743	4,200	3,400
Pickands Mather & Co. Steel Company of Canada	3,130	3,130	3,130	3,300	NA
Great Western Coal, Inc. Great Western Resources, Inc.	2,911	3,374	2,969	3,000	(e)
New Horizons Coal Division Great Western Resources, Inc.	NA	NA	NA	NA	2,256
Inspiration Coal, Inc.[f] Hudson Bay Mining & Smelting Co.	2,579	1,993	2,500	2,500	0
Gulf Resources and Chemical HCI Holdings, Ltd./Private Investor	1,426	1,709	2,192	1,800	1,800
Carter-Roag Coal Co. Marquard and Bahls Coal Co.	588	540	604	754	577
Cannelton Industries, Inc.[g] Algoma Steel, Ltd.	4,054	4,536	5,393	NF	NF
Old Ben Coal Co. (BP America)[h] British Petroleum	12,986	12,200	5,000	0	0
M.A. Hanna Co.[i] Brascan Ltd.	3,955	4,200	4,085	0	0
Total American Mining Total Compagnie Francaise de Petroles	585	42	0	0	0

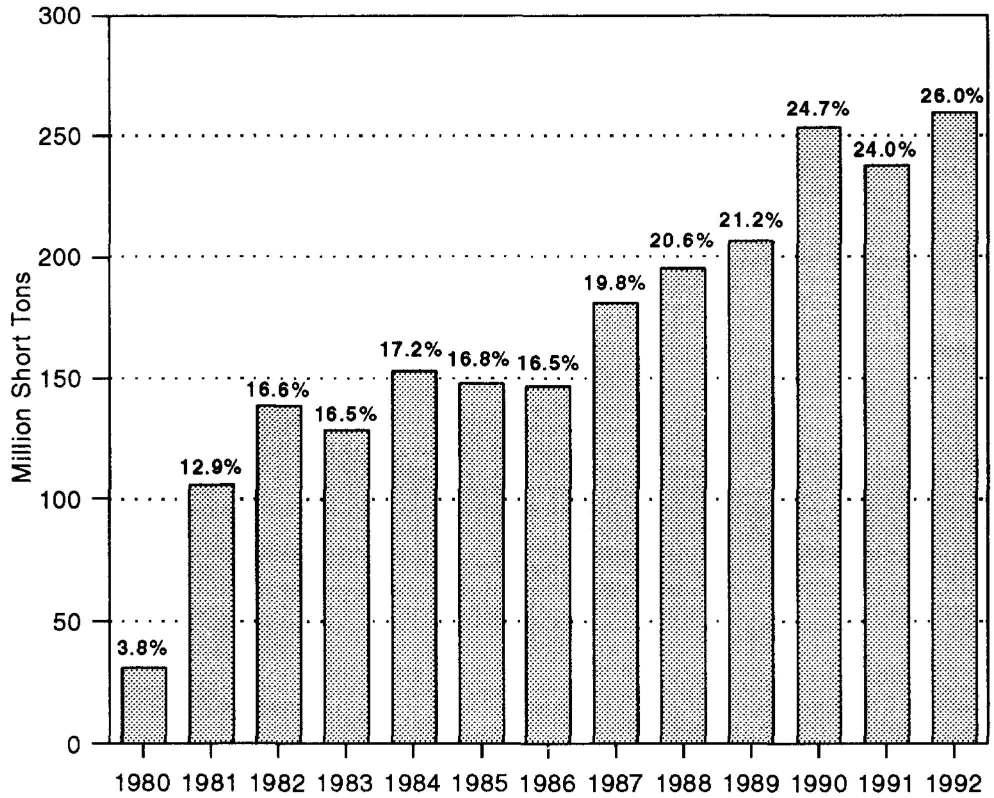
See footnotes at end of table.

Table 11. Bituminous Coal and Lignite Production and Source of Ownership of Foreign-Affiliated Coal Companies in the United States, 1988-1992 (Continued)

Controlling Company/ Foreign-Ownership Interest	Coal Production[a]				
	1988	1989	1990	1991	1992
	(thousand short tons)				
Avery Coal Co.					
Trafalgar Industries	283	283	0	0	0
Coal Corp. of American (Shaker Division)					
Campbell Resources	60	60	0	0	0
Total Foreign-Affiliated	195,414	207,013	253,717	237,754	259,333
Total United States	946,710	977,381	1,025,570	992,539	994,062
Percent Foreign-Affiliated	20.6	21.2	24.7	24.0	26.0

[a]Coal production refers to bituminous coal, subbituminous coal, and lignite coal production only.
[b]In 1990, Hanson PLC, a U.K. company, gained 100-percent ownership of Peabody Holding Company. For 1987-1989, only Newmont Mining's ownership share of Peabody's production is shown, which was 49.97 percent in 1987-1988 and 54.97 percent in 1989.
[c]Sold coal assets to Zeigler Coal in 1992.
[d]Included under Costain Coal Co.
[e]Included under New Horizons Coal Division.
[f]1990 production from Inspiration Resources Corporation, *1990 Annual Report*, p. 10. Acquired by Ross Harris in 1991.
[g]Acquired by AMAX in 1991.
[h]The estimate of 1990 production was derived as follows: Mingo Logan (2,200 thousand tons of production according to Ashland Coal) was sold in January and remaining coal operations were sold in July. So, estimated production = (12,200 - 2,200)/2 = 5,000 thousand tons.
[i]Joint venture with Occidental Petroleum Corporation. The joint venture was dissolved in 1988.
NA = Not available.
NF = No foreign affiliation during this period.
Sources: Coal ownership: U.S. Securities and Exchange Commission Form 13-D; *Moody's Industrial Manual, 1987-91*; U.S. Department of Commerce, International Trade Administration, *Foreign Direct Investment Activity in the United States.* Coal company production data: 1992: *1994 Coal Mine Directory* (Chicago, IL: Maclean Hunter Publishing Co., January 1994). 1991: *1993 Coal Mine Directory* (Chicago, IL: Maclean Hunter Publishing Co., January 1993). 1990: *1992 Coal Mine Directory* (Chicago, IL: Maclean Hunter Publishing Co., October 1991). 1989: *Keystone News Bulletin* (Stamford, CT: Maclean Hunter Publishing Co., June 1990). 1988: *Keystone News Bulletin* (Stamford, CT: Maclean Hunter Publishing Co., July 1989). U.S. total for coal production: Energy Information Administration, *Coal Production 1992*, DOE/EIA-0118(92) (Washington, DC, October 1993), and previous issues.

Figure 5. Production and Share of U.S. Total Bituminous Coal and Lignite for Foreign-Affiliated U.S. Companies, 1980-1992



Sources: 1981: Energy Information Administration, *Profiles of Foreign Direct Investment in U.S. Energy 1983*, DOE/EIA-0466 (Washington, DC, February 1985). 1982-1989: *Keystone Coal Industry Manual*, 1983-1990 Editions. 1990: *1992 Coal Mine Directory*, (Chicago, IL: Maclean Hunter Publishing Co., October 1991). 1991: *1993 Coal Mine Directory* (Chicago, IL: Maclean Hunter Publishing Co., January 1993). 1992: *1994 Coal Mine Directory* (Chicago, IL: Maclean Hunter Publishing Co., January 1994). U.S. Totals: Energy Information Administration, *Coal Production 1992*, DOE/EIA-0118(92) (Washington, DC, October 1993).

Uranium Exploration and Development

In the United States, uranium exploration and development expenditures by foreign-affiliated companies totaled $8.0 million in 1992, a $4.5-million increase over the 1991 level (Table 12), even though total U.S. uranium expenditures fell in 1992, to $14.5 million, down $3.3 million from the 1991 level. Acquiring secure uranium supplies is perhaps the only justification for the recent growth in foreign participation in U.S. uranium exploration, given that U.S. uranium import prices were at record lows in 1992, while domestic production dropped to a level unseen since 1955.[35]

Between 1966 and 1973, when the industry's expansion prospects were strong, total U.S. uranium exploration and development expenditures averaged $334.4 million per year. In 1992, only $14.5 million was spent.[36] Foreign investor interest in U.S. uranium exploration

[35]Energy Information Administration, *Uranium Industry Annual 1992*, DOE/EIA-0478(92) (Washington, DC, October 1993), p. 15.
[36]Energy Information Administration, *Uranium Industry Annual 1992*, DOE/EIA-0478(92) (Washington, DC, October 1993), p. 27.

Table 12. Foreign Participation in U.S. Uranium Exploration and Development, 1976-1992

Year	Exploration and Development Expenditures by Foreign Companies	Total U.S. Exploration and Development Expenditures	Foreign Expenditures as a Percent of U.S. Total	Number of Foreign-Affiliated Companies
	(million dollars)			
1976	13.2	170.7	8	15
1977	21.7	258.1	8	17
1978	39.3	314.3	13	31
1979	34.1	315.9	11	28
1980	37.6	267.0	14	28
1981	24.6	144.8	17	25
1982	14.6	73.6	20	14
1983	4.8	36.9	13	9
1984	6.6	26.5	25	9
1985	5.6	20.1	28	6
1986	12.0	22.1	54	8
1987	11.9	19.7	60	11
1988	8.9	20.1	44	11
1989	6.1	14.8	41	7
1990	2.5	17.1	15	9
1991	3.5	17.8	19	6
1992	8.0	14.5	55	6

Source: Energy Information Administration, *Uranium Industry Annual 1992*, DOE/EIA-0478(92) (Washington, DC, October 1993), pp. 27-28.

and development has fallen substantially from the latter part of the 1970's and early 1980's when foreign investment was sustained at levels ranging from $25 million to $40 million per year.[37] In 1992, uranium prices were less than half of what they were a decade ago.[38] Uranium mine production in the United States peaked in 1980 at 44 million pounds.[39] By 1992, U.S. uranium production had fallen to 1 million pounds per year. Imports have replaced most of the reduced U.S. production.

Comparative Performance of Foreign-Affiliated Companies

Foreign-affiliated U.S. energy companies reported negative income of $3.4 billion for 1992 versus a profit of $2.3 billion in 1991 (Table 13). In aggregate, U.S. energy companies reported income of $9.2 billion, roughly half the 1991 level. While the U.S. energy industry reported a 5.2-percent return on equity for 1992, the foreign-affiliated group reported a negative 3.5-percent return, the lowest rate of return in at least a decade (Figure 6). The relatively poorer performance of the U.S. petroleum operations of foreign affiliates stems from their greater reliance on refining/marketing operations as a source of revenue. Due to lower refined product margins in 1992, U.S. refiners realized an unusually poor financial performance. An increase in natural gas prices and production domestically aided U.S.-based petroleum companies which typically are relatively more dependent on upstream operations as a source of income.[40] Special charges related to the issuance of statement No. 106 by the Financial Accounting Standards Board (FASB) may have also had a disproportionate impact on foreign-affiliated companies' income during 1992.

[37]Energy Information Administration, *Uranium Industry Annual 1992*, DOE/EIA-0478(92) (Washington, DC, October 1993), p. 28.
[38]Energy Information Administration, *Uranium Industry Annual 1992*, DOE/EIA-0478(92) (Washington, DC, October 1993), p. 59.
[39]Energy Information Administration, *Uranium Industry Annual 1992*, DOE/EIA-0478(92) (Washington, DC, October 1993), p. 35.
[40]Energy Information Administration, *Performance Profiles of Major Energy Producers 1992*, DOE/EIA-0206(92) (Washington, DC, January 1994), p. 1.

Table 13. Selected Financial Information for Foreign-Affiliated U.S. Energy Companies, 1991-1992

Category	Foreign-Affiliated U.S. Energy Companies[a]			U.S. Energy Industry Comparison Group[b]		
	1991	1992	Percent Change	1991	1992	Percent Change
	(billion dollars)			(billion dollars)		
Financial Items						
Revenues	86.0	81.7	-5.1	445.2	451.8	1.5
Net Income	2.3	-3.4	NM	18.7	9.2	-50.5
Cash Flow[c]	9.7	8.6	-10.5	47.7	46.0	-3.7
Capital Outlays	10.7	10.0	-6.7	39.7	44.7	12.5
Cash Dividends	2.7	2.5	-8.0	14.6	14.6	-0.1
Total Assets	95.8	96.1	0.3	474.3	481.6	1.5
	(percent)					
Financial Ratios						
Return on Equity[d]	5.1	-3.5		10.6	5.2	
Dividends/Net Income	118.6	NM		78.1	1.6	
Dividends/Cash Flow	27.8	28.6		30.5	31.7	
Debt/Equity[e]	35.8	47.4		58.7	58.8	

[a]Includes incorporated U.S. energy companies which are foreign-affiliated and for which publicly reported financial information is available. Also included are foreign parent companies for which data for U.S. operations were not separately disclosed. For 1991, these companies were: Adobe Resources Corp., Anadarko Petroleum Corp., Arabian Shield Development Co., Ashland Coal Inc., Avalon Corp., Barret Resources Corp., Bellwether Exploration Co., Cairn Energy USA Inc., Caspen Oil Inc., Castle Energy Corp., Chieftain International Inc., Coho Resources Inc., Daleco Resources Corp., E.I. du Pont de Nemours and Company, Exploration Company of Louisiana, Fina Inc., Georesources Inc., Gold King Consolidated Inc., Great Northern Gas Co., Gulf USA Corp., Hamilton Oil Corp., Harcor Energy Co., Harken Energy Corp., Hondo Oil and Gas Co., Horsham Corp., MSR Exploration Ltd., Magellan Petroleum Corp., New London Inc., Norcen Energy Resources Ltd., Oceanic Exploration Co., Panhandle Eastern Corp., Penn Virginia Corp., Presidio Oil Co., Ranger Oil Ltd., Reading & Bates Corp., Rio Algom Ltd., Santa Fe Energy Resources Inc., Schlumberger Ltd., Shell Oil Co., Sunlite Inc., Taurus Petroleum Inc., Tesoro Petroleum Corp., Total Petroleum (North America), Ultramar Corp., Westmoreland Coal Co., and Woodbine Petroleum Inc. In 1992, the following companies were not included: Adobe Resources Corp. (merged with Santa Fe Corp.), Barret Resources Corp., Great Northern Gas Co., Ranger Oil Ltd., and Woodbine Petroleum Inc. (merged with Sunlite Inc.).

[b]The comparison group is derived from aggregates available from the Compustat II Industrial File for the following four digit (SIC) industries: 1220 (bituminous coal, lignite mining), 1221 (bituminous coal, lignite surface mining), 1311 (crude petroleum and natural gas production), 1381 (oil and gas well drilling), 1382 (oil and gas field exploration), 1389 (oil and gas field services not elsewhere classified), and 2911 (petroleum refining). The Compustat aggregates are adjusted by subtracting out data for companies which have been identified as foreign-affiliated, or whose operations are foreign-based, or foreign-based companies whose U.S. operations are already included in U.S. companies identified as foreign-affiliated.

[c]Measured as cash flow from operations.

[d]Defined as net income divided by year-end stockholders' equity.

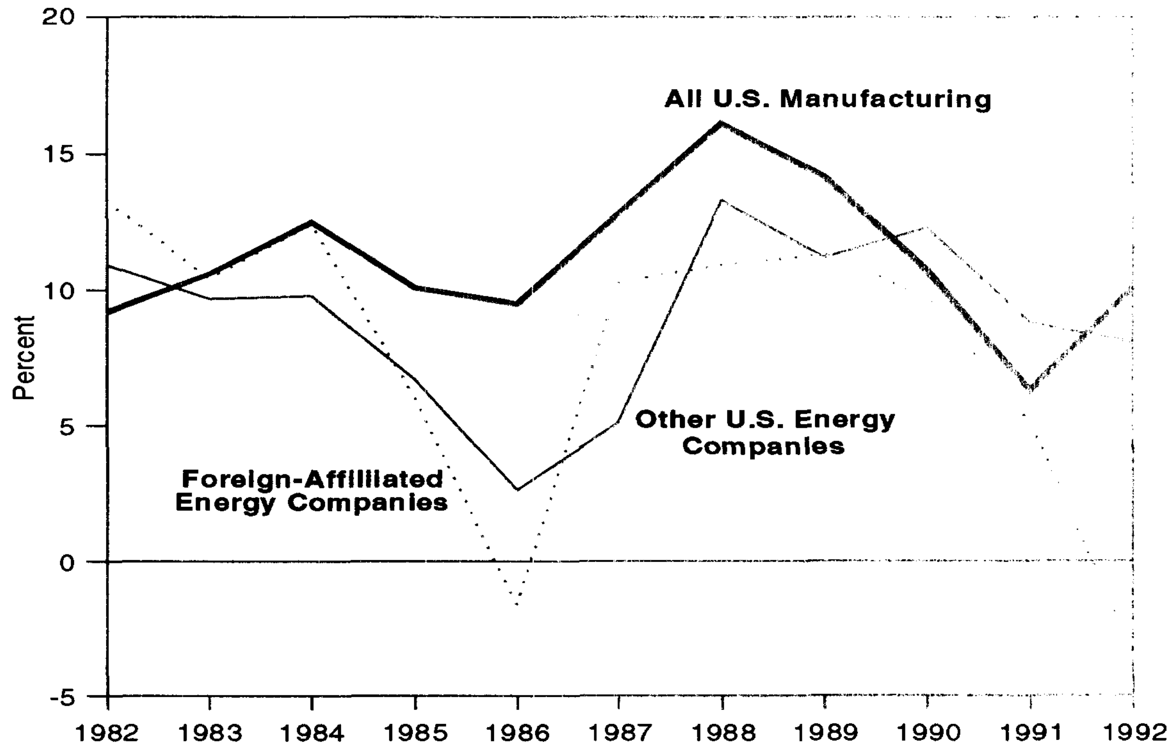
[e]Defined as year-end long-term debt divided by year-end stockholders' equity.

Source: Compiled from Compustat II Industrial File and company annual reports.

NM = Not meaningful.

Note: Percent changes were calculated from unrounded data.

Figure 6. Return on Stockholders' Equity for Foreign-Affiliated U.S. Energy Companies, Other U.S. Energy Companies, and All U.S. Manufacturing Corporations, 1982-1992



Note: A substantial portion of the 1992 decline for foreign-affiliated energy companies can be attributable to the adoption of Financial Accounting Standards (FAS) 106 discussed in Chapter 4. Although these non-cash charges had a substantial impact on the financial performance of U.S. corporations in 1992, not all companies separated FAS 106-related accounting charges from all other charges reported during the year. However, for Du Pont and Shell, special charges taken during 1992 as a result of FAS 106 amounted to $4.7 billion.

Sources: Energy companies: Compustat II Industrial File and company annual reports. All U.S. manufacturing corporations: *Economic Report of the President*, February 1993.

The financial performance of the U.S. energy industry diverged dramatically from the financial performance of all U.S. manufacturing corporations. While U.S. energy companies reported a 47-percent decline in net income between 1991 and 1992, net income for all U.S. manufacturing corporations rose 65 percent (Table 14). The return on investment showed a similar divergence. The profitability of U.S. energy companies fell to 4.9 percent in 1992 from 7.4 percent in 1991. Over the same period, the profitability of all U.S. manufacturing corporations rose from 6.3 percent to 10.1 percent.

The most dramatic financial development in 1992 was the effect of the adoption of a new standard to account for postretirement benefits other than pensions (FASB 106). The largest of these benefits are for medical care. All at once, many companies recognized a cumulative liability for health and certain other benefits, which in the aggregate nearly offset all the profits from ongoing operations. Many companies throughout the economy were affected by the new financial reporting requirements. The adoption, by itself, resulted in a one-time special charge equivalent to the net income of the *Fortune 500* group of industrial companies. Adjusting for the cumulative liability caused a $70-billion offset in profits for this group of companies.[41]

[41]*Fortune* (April 19, 1993), p. 74.

Table 14. Annual Change in Net Income and Return on Stockholders' Equity, 1990-1992
(Percent)

Industries	Percent Change in Net Income			Return on Stockholders' Equity[a]		
	1990	1991	1992	1990	1991	1992
U.S. Energy Companies[b]	7.5	-35.4	-46.8	11.7	7.4	4.9
All U.S. Manufacturing Corporations	[c]-18.1	[c]-39.5	[c]64.9	10.7	6.3	10.1

[a]Net income as a percent of year-end stockholders' equity.
[b]Includes both groups of companies shown in Table 13.
[c]Percent change in corporate profits after income taxes.
Sources: Energy companies: Compustat II Industrial File. Corporate profits after income taxes for all U.S. manufacturing corporations and return on stockholders' equity for all U.S. manufacturing corporations: *Economic Report of the President February 1993*, p. 450.

Appendix

Completed Foreign Direct Investment Transactions, 1992

Table A1. Completed Transactions by Size in the Petroleum Industry from January 1992 Through December 1992—Acquisitions and Divestitures

Acquiring Company	Acquiring Company Activity	Affected Company	Affected Company Activity	Type of Transaction	Size of Transaction (million dollars)	Date of Transaction
			Acquisitions			
Minorco (Luxembourg) Santa Fe Energy Resources Corp.	Oil and gas exploration and production	Adobe Resources Corp. (NY)	Oil and gas exploration and production, gas gathering, marketing	Merger	450.0	May
International Petroleum Investment Partners (United Kingdom) Anadarko Petroleum Corp.	Oil and gas exploration and production	Arco Oil and Gas Co. (CA)	Integrated petroleum operations	Property acquisition	190.0	December
Louis Dreyfus et CIE (France) Louis Dreyfus Natural Gas Corp.	NA	Dekalb Energy Co. (IL)	Oil and gas exploration and development	Asset acquisition	104.0	October
Horsham Corp. (Canada)	Gold production, petroleum refining and marketing	Clark Oil and Refining Corp. (MO)	Petroleum refining	Equity acquisition	100.0	December
Metallgesellschaft (Germany) Castle Energy Corp.	Petroleum refining, oil and gas exploration and production	ARCO (CA)	Integrated petroleum operations	Property acquisition	94.5	December
Norcen Energy Resources Ltd. (Canada)	Oil and gas exploration and development, propane marketing, iron ore mining	Pan Canadian Petroleum Ltd. (CAN)	Oil and gas exploration and development	Asset acquisition	39.5	April
British Gas Plc (United Kingdom)	Natural gas marketing	Natural Gas Clearinghouse (TX)	Natural gas marketing	Equity acquisition	25.4	May
Interkohle (Germany) Penn Virginia Corp.	Real estate, oil and gas, coal	Sonat Inc. (AL)	Natural gas transmission and marketing, oilfield services	Property acquisition	20.3	December
Schlumberger Ltd. (Netherlands)	Oil and gas exploration services	Global Marine Inc. (TX)	Oil and gas drilling services and development	Asset acquisition	17.0	September
Minorco (Luxembourg) Santa Fe Energy Resources Inc.	Oil and gas exploration and production	Adobe Resources Corp. (NY)	Oil and gas exploration and development	Property acquisition	14.2	February
Fercenergy (Sweden)	NA	Unspecified	NA	Property acquisition	11.5	January
International Petroleum Investment Partners (United Kingdom) Anadarko Petroleum Inc.	Oil and gas exploration and production	Calley & Fowler Production Co. (TX)	Oil and gas exploration and development	Merger	11.0	May

See footnotes at end of table.

Table A1. Completed Transactions by Size in the Petroleum Industry from January 1992 Through December 1992—Acquisitions and Divestitures (Continued)

Acquiring Company	Acquiring Company Activity	Affected Company	Affected Company Activity	Type of Transaction	Size of Transaction (million dollars)	Date of Transaction
		Acquisitions (Continued)				
Coho Resources (Canada)	Oil and gas exploration and production	Comada Energy Ltd.	Oil and gas exploration and development	Asset acquisition	8.1	June
Schlumberger Ltd. (Netherlands) Pogo Producing Co.	Oil and gas exploration and production	Unspecified	NA	Equity acquisition	4.6	July
Louis Dreyfus et CIE (France) Louis Dreyfus Gas Holding Co.	Oil and gas holding company	Red Eagle Resources Corp. (OK)	Oil and gas exploration and development	Equity acquisition	4.0	January
Fercenergy (Sweden)	NA	Unidentified	NA	Equity acquisition	4.0	June
New London Plc (United Kingdom)	NA	New London Inc. (TX)	Oil and gas exploration and development	Merger	3.9	August
Cornwell Petroleum Corp. (Australia) HarCor Energy Inc.	Oil and gas exploration and production	Unspecified	NA	Equity acquisition	3.3	October
Schlumberger Ltd. (Netherlands) Pogo Producing Co.	Oil and gas exploration and production	Unspecified	NA	Equity acquisition	3.3	October
Coho Resources Inc. (Canada)	Oil and gas exploration and production	Unspecified	NA	Property acquisition	3.0	October
IBM UK Pension Trust (United Kingdom) Bellwether Exploration Co.	Oil and gas exploration and production	Lasmo Plc (UK)	Oil and gas exploration and development	Equity acquisition	2.5	July
Schlumberger Ltd. (Netherlands) Pogo Producing Co.	Oil and gas exploration and production	Alta Energy Corp. (CO)	Oil and gas exploration and development, gas transmission	Equity acquisition	1.9	April
Aran Energy Plc (United Kingdom) Aran Energy Corp.	Oil and gas exploration and production	Unspecified	NA	Equity acquisition	1.8	December
Arakis Energy Corp. (Canada)	NA	Delta Petroleum Corp. (CO)	Oil and gas exploration and development	Property acquisition	1.5	February

See footnotes at end of table.

Table A1. Completed Transactions by Size in the Petroleum Industry from January 1992 Through December 1992—Acquisitions and Divestitures (Continued)

Acquiring Company	Acquiring Company Activity	Affected Company	Affected Company Activity	Type of Transaction	Size of Transaction (million dollars)	Date of Transaction
		Acquisitions (Continued)				
Cairn Energy Plc (United Kingdom) Cairn Energy USA, Inc.	Oil and gas exploration and production	Omni Exploration Inc. (TX)	Oil and gas exploration and development	Merger	1.1	February
Arakis Energy Corp. (Canada)	NA	Unspecified	NA	Property acquisition	1.1	January
Channel Hotels and Properties Ltd. (United Kingdom) Sunlite Inc.	Oil and gas exploration and production	Woodbine Petroleum Inc. (TX)	Oil and gas exploration and development	Merger	0.6	September
Cornwell Petroleum Corp. (Australia) HarCor Energy Inc.	Oil and gas exploration and production	Jefferson Gas Systems Inc.	Natural gas marketing, transport	Equity acquisition	0.5	August
Caspen Oil Plc (United Kingdom) Caspen Oil Inc.	Oil and gas exploration and production	Reclamation Biotech Holding Corp.	NA	Asset acquisition	0.4	July
International Petroleum Investment Partners (United Kingdom) Anadarko Minerals Inc.	Oil and gas exploration and production	Bentley "C" Trust	NA	Equity acquisition	0.3	October
Caspen Oil Plc (United Kingdom) Caspen Oil Inc.	Oil and gas exploration and production	Unspecified	NA	Equity acquisition	0.2	July
International Petroleum Investment Partners (United Kingdom) Anadarko Petroleum Corp.	Oil and gas exploration and production	Nicor Oil and Gas Corp.	Oil and gas exploration and development	Asset acquisition	NA	May
Petroleos de Venezuela (Venezuela) Citgo Petroleum Corp.	Petroleum refining, marketing	Mobil Pipeline Co.	Integrated petroleum operations	Asset acquisition	NA	July
Louis Dreyfus et CIE (France) Louis Dreyfus Energy Corp.	NA	Unocal Corp. (CA)	Integrated petroleum operations	Asset acquisition	NA	July
Schlumberger Ltd. (Netherlands)	Oil and gas exploration services	Pogo Producing Company (TX)	Oil and gas exploration and development	Equity acquisition	NA	Fourth Quarter

See footnotes at end of table.

Table A1. Completed Transactions by Size in the Petroleum Industry from January 1992 Through December 1992—Acquisitions and Divestitures (Continued)

Acquiring Company	Acquiring Company Activity	Affected Company	Affected Company Activity	Type of Transaction	Size of Transaction (million dollars)	Date of Transaction
		Divestitures				
Devon Energy Corp.	Oil and gas exploration and production	Lonrho Plc (UK) Hondo Oil and Gas Co.	Oil and gas exploration and development	Property acquisition	139.2	June
Leveraged Equity Fund II LP	Limited Partnership	Friends Provident Life (UK) Presidio Oil Co.	Oil and gas exploration and development	Asset acquisition	85.0	July
Cody Resources Inc.	NA	Lasmo Plc (UK) Ultramar Inc.	Oil and gas exploration and development	Asset acquisition	85.0	November
Apache Corp.	Oil and gas exploration and production	Royal Dutch/Shell Group (UK, Netherlands) Shell Offshore Inc.	Integrated petroleum operations	Equity acquisition	67.0	November
Belden and Blake Corp.	NA	Friends Provident Life (UK) Presidio Oil Co.	Oil and gas exploration and development	Asset acquisition	35.0	December
Unidentified	NA	Lasmo Plc (UK) Bright Star Gas Gathering System	NA	Equity acquisition	15.0	September
Coho Resources	Oil and gas exploration and production	Comada Energy Ltd. (AUS)	Oil and gas exploration and development	Asset acquisition	8.1	June
Unidentified	NA	Great Western Resources Inc. (UK, CAN)	Oil and gas exploration and development, coal mining	Asset acquisition	7.3	April
Orbital Oil and Gas Corp.	Oil and gas exploration and production	Internationale Nederlanden Bank N.V. (Netherlands))	Banking, investment holding	Equity acquisition	4.0	April
Unidentified	NA	National Rivers Authority Supernational Fund (UK) Exploration Co. of Louisiana	Oil and gas exploration and development	Equity acquisition	4.0	January
Vintage Petroleum Inc.	Oil and gas exploration and production	Royal Dutch/Shell Group (UK, Netherlands) Shell Western E&P Inc.	Integrated petroleum operations	Property acquisition	3.4	April
Unidentified	NA	National Rivers Authority Supernational Fund (UK) Exploration Co. of Louisiana	Oil and gas exploration and development	Equity acquisition	3.0	January

See footnotes at end of table.

Table A1. Completed Transactions by Size in the Petroleum Industry from January 1992 Through December 1992—Acquisitions and Divestitures (Continued)

Acquiring Company	Acquiring Company Activity	Affected Company	Affected Company Activity	Type of Transaction	Size of Transaction (million dollars)	Date of Transaction
		Divestitures (Continued)				
Bellwether Exploration Co.	Oil and gas exploration and production	Lasmo Plc (UK)	Oil and gas exploration and development	Equity acquisition	2.5	July
Hampton Resources Corp.	Oil and gas exploration and production	Total Compagnie Francaise des Petroles (France) Total Minatome Inc.	Oil and gas exploration and development	Asset acquisition	2.3	August
Floyd Oil Co.	NA	Broken Hill Proprietary Co. Ltd. (AUS) BHP Petroleum (Americas) Inc	Integrated petroleum operations	Equity acquisition	2.2	February
TPEX Exploration Inc.	Oil royalty trading	Victoria Petroleum NL (AUS)	Oil and gas exploration and development	Property acquisition	1.6	June
Sunlite Inc.	Oil and gas exploration and production, real estate	International Eurotec Co. Ltd. (UK) Woodbine Petroleum	Oil and gas exploration and development	Merger	0.6	September
LaTex Resources Inc.	Oil and gas exploration and production	Total Compagnie Francaise des Petroles (France) Total Minatome Inc. (TX)	Oil and gas exploration and development	Property acquisition	0.4	June
Southwest Royalties Inc.	NA	Deminex-Deutsche (Germany) Deminex U.S. Oil Co. (TX)	Oil and gas exploration and development	Merger	NA	May
Nicor Exploration and Production	Oil and gas exploration and production	Total Compagnie Francaise des Petroles (France) Total Minatome Inc. (TX)	Oil and gas exploration and development	Equity acquisition	NA	January
Petrol-Hunt Corp	NA	JES Co. Ltd. (CAN) Conoco Inc.	Integrated petroleum operations	Property acquisition	NA	February
Interstate Natural Gas Co.	NA	BASF AG (Germany) Wintershall Energy Corp.	Oil and gas exploration and development, natural gas gathering, processing	Asset acquisition	NA	June
Plains Resources Inc.	Oil and gas exploration and production	Lasmo Plc (UK)	Oil and gas exploration and development	Equity acquisition	NA	August

NA = Not available.
Source: See page 45.

Table A2. Completed Transactions by Size in the Coal Industry from January 1992 Through December 1992—Acquisitions and Divestitures

Acquiring Company	Acquiring Company Activity	Affected Company	Affected Company Activity	Type of Transaction	Size of Transaction (million dollars)	Date of Transaction
			Acquisitions			
Royal Dutch/Shell Group (UK, Netherlands) Shell Oil Company	Integrated petroleum operations, coal operations	Zeigler Coal Holding Co. (IL)	Holding company for coal mines	Equity acquisition	850.0	November
Saarberg Coal International (Germany) Ashland Coal Inc.	Coal mining operations	Dal-Tex Coal (VA)	Coal mining	Merger	242.0	April
Hanson Plc (United Kingdom) Peabody Holding Co.	Coal mining operations	American Electric Power Inc. (NY)	Electric power generation	Asset acquisition	165.0	June
Veba AG (Germany) Westmoreland Coal Co.	Coal mining operations	Penn Virginia Corp. (PA)	Invests in real estate, oil and gas, coal	Equity acquisition	18.5	July
			Divestitures			
Zeigler Coal Holding Co.	Coal mining operations	Royal Dutch/Shell Group (UK, Netherlands) Shell Oil Co. (TX)	Integrated petroleum operations, coal operations	Asset acquisition	850.0	November
Westmoreland Coal Co.	Coal mining operations	Interkohle (Germany) Penn Virginia Corp. (PA)	Invests in real estate, oil and gas, coal	Equity acquisition	18.5	July

NA = Not available.
Source: See page 45.

Sources

Informational material used in compiling Tables A1 and A2:

- *The Wall Street Journal*, various issues, 1992 and 1993.
- *Business Week*, various issues.
- Company financial reports: annual reports to stockholders, annual reports on Securities and Exchange Commission (SEC) Form 10-K, and filings on SEC Schedule 13-D.
- *Moody's International Manual*, 1992 and 1993. Moody's Investors Service, New York, NY.
- *Oil and Gas Journal*, various issues, 1992 and 1993. Pennwell Publishing Company, Tulsa, OK.
- *SEC News Digest*, selected issues, 1992 and 1993. U.S. Securities and Exchange Commission, Washington, DC.
- The Financial Times Limited International Gas Report.
- The Merger Yearbook U.S./International Edition 1993. Securities Data Company, New York, NY.
- *Oil and Gas Investor*, September 1992 and April 1993. Hart Publications, Inc., Denver, CO.
- *U.S. Oil Week*, various issues, 1992 and 1993. Capital Publishing Group, Alexandria, VA.
- *Coal*, various issues, 1992 and 1993. Maclean Hunter Publishing Co., Chicago, IL.
- *Coal Outlook*, various issues, 1992. Pasha Publications, Arlington, VA.
- Company press releases.
- *1994 Coal Mine Directory*. Maclean Hunter Publications, Co., Chicago, IL.
- Europe Information Service.

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